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ABSTRACT

Included in this compilation of research are abstracts of 83 studies completed during 1970-71 and reported by teacher education institutions and state departments of education. Arranged alphabetically by author and indexed by subject, each abstract contains the title, degree, date of publication, institution, and the purpose, methodology and findings of the study. In addition, all the studies are available for loan from university libraries, university departments of agricultural education, and state departments of vocational-technical education. A list of studies in progress in 1971-72 is also included. (SB)

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Departmental Report No. 36

SUMMARIES OF STUDIES
IN
AGRICULTURAL EDUCATION
CENTRAL REGION
1970-1971

AN ANNOTATED BIBLIOGRAPHY OF STUDIES IN AGRICULTURAL EDUCATION

The Department of Agricultural Education
College of Agriculture
The University of Nebraska
Lincoln, Nebraska 68503
December, 1971

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SUMMARIES OF STUDIES IN AGRICULTURAL EDUCATION

CENTRAL REGION

1970-71

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December, 1971

INTRODUCTION

This compilation of research in agricultural education includes abstracts of 83 studies completed during 1970-71 in 12 of the 13 states of the Central Region. This compares with 103 studies reported last year, 82 the year before, 66 in 1968, and 55 in 1967. They are arranged alphabetically by author and indexed by subject. A list of studies in progress in 1971-72 is also included.

Abstracts of research completed in 1970-71 were reported by teacher education institutions and state departments of education in the region. All studies reported are available for loan from university libraries, departments of agricultural education in universities, and state departments of vocational and technical education.

This compilation of abstracts of research in agricultural education is an activity of the Research Committee of the Agricultural Education Division of the American Vocational Association.

James T. Horner, National Chairman
and Central Regional Representative
Research Committee
Agricultural Education Division
American Vocational Association

December, 1971

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SUMMARIES OF STUDIES, 1970-71

1. AMMADI, Mohammad Ali, A Comparison of Teacher and Student Perceptions of Certain Objectives for Three Agricultural Occupations Curriculums in Illinois Junior Colleges. Dissertation, Ph.D., 1971. University of Illinois, Urbana.

Purpose. The purposes of the study were to (1) ascertain whether or not significant differences existed in teachers' and students' perceptions of objectives for three curriculums in the agricultural occupations area; agricultural production, agricultural mechanics, and agricultural business management; (2) compare the degree to which teachers and students perceived the meaning of certain objectives for each of the curriculums; and (3) determine whether or not there were significant differences among teachers, within each curriculum, in their perceptions of the objectives for each of the curriculums studies.

Method. The population consisted of 21 Illinois Junior Colleges which were offering at least one of the major agricultural occupations curriculums during 1969-70 academic year. A random sample of ten junior colleges was selected from the 21 institutions in the population. The respondents consisted of 406 agricultural occupations teachers and students in the ten selected junior colleges. Instruments developed and used in the study were adaptations of the semantic differential technique. The instruments consisted of three forms, each designed to measure the connotative meanings of ten selected objectives held by teachers and students involved in each of the curriculums studies. The statistical treatments utilized to analyze the responses were: (1) multivariate analysis of variance; (2) analysis of variance; and (3) Kendall's Coefficient of Concordance.

Findings. (1) Teachers and students in the three agricultural occupations programs appeared to have similar perceptions of the objectives for their respective curriculums; (2) Comparisons of the responses of teachers and those of their students in each of the curriculums studies revealed no significant differences in the connotative meanings of the objectives held by them; (3) Teachers in each major curriculum appeared, in general, to have similar agreements regarding their perceptions of the objectives for their respective curriculums. The exception to this was the teachers of agricultural business management who significantly disagreed among themselves regarding their perceptions of the objectives; (4) Generally, teachers of agricultural occupations with various years of teaching experience or teachers in various age groups studied, did not seem to perceive the selected objectives differently; (5) In the agricultural mechanics and in the agricultural production curriculums, the various course grades expected by students or the interest level in the course, in general, seemed to be related to students' perceptions of certain objectives for their respective curriculums; (6) For the agricultural mechanics students, the year of study, first or second, appeared to be related to their perceptions of certain curriculum objectives studied; (7) For the agricultural business management students, factors such as year in college, type of program, or grade expected in the course did not appear, in general, to be related to their perceptions of the objectives studied.

2. BENDER, Ralph E., The 1970 Occupations of Recent Graduates of Vocational Agriculture in Ohio. Staff Study, 1971. The Ohio State University, Columbus.

Purpose. To identify the occupations as of March, 1970, of graduates of vocational agriculture in Ohio who had been out of school one to five years.

Method. The survey included 1,399 graduates of 77 departments selected at random from the fourteen supervisory districts in Ohio. This survey is the continuation of similar studies conducted in previous years.

Findings. Fifty-five per cent of the graduates out of school one to five years were engaged in farming and farm related occupations. Less than one per cent of the graduates were unemployed.

Thirty per cent of the graduates out of school one year and 37 per cent of those out of school five years were in farming. Slightly more than 50 per cent of the farmers were farming on a full-time basis. Four of each five (79 per cent) graduates engaged in farming were doing so on the home farm.

The percentage of graduates involved in non-agricultural work the first year out of school was 32 per cent compared to 39 per cent for those out of school five years. A large proportion of their occupations require aptitude and ability in mechanics; some of the common types of employment involve skills in working with people.

Twenty-five per cent of the graduates out of school one year were in college of technical schools. Of this group, 60 per cent were pursuing additional study in agriculture.

An analysis of the data accumulated during the 13-year period of the survey indicates that fewer graduates are becoming established in farming; increasingly more of the graduates engaged in farming are getting started on their home farms; an increasing percentage of the graduates are becoming employed in off-farm agricultural and non-agricultural occupations; and more graduates are enrolling in college and technical schools.

3. BETTIS, Mervin D., Experimental Evaluation of the Effectiveness of Safety Units in Teaching the Safe Use of Power Equipment. Thesis, M.S., 1971. Library, Iowa State University, Ames.

Purpose. The purpose of this study was to determine the effectiveness of the use of prepared study guides as a supplement to the demonstration and other instructional methods used while teaching the safe use of wood-working power equipment.

Method. The experiment was conducted on 46 students enrolled in Agricultural Engineering 255 at Iowa State University during the fall quarter of 1970. Information was obtained by administering a questionnaire, mechanical aptitude test, pre-test and post-test, laboratory practicum, and data collected from student records in the Office of Registrar at Iowa State University of Science and Technology. Instruction in the laboratory was supplemented with the use of prepared study guides stressing safe operating procedures for each power tool. The control group did not use these guides in their laboratory classes. The t-test, step-wise regression analysis, and analysis of covariance were used to analyze differences between groups.

Findings. No significant differences between the control and treatment groups were observed for post-test, safety score, performance score, laboratory score, and individual power tool safety scores on six of the eight power tools included in the study. Significant differences were observed between groups for safety scores for the tilting arbor saw in favor of the control group and the drill press in favor of the treatment group. Significant positive correlations were observed for safety score and mechanical aptitude and grade point average. For the treatment group, a significant correlation coefficient was observed between college grade point and total laboratory score.

4. BOUCHER, Leon W., The Status of Teacher Education Programs in Agriculture. Staff Study, 1971. The Ohio State University, Columbus.

Purpose. To determine the practices presently used in preparing professional personnel for agricultural education positions.

Method. All department chairmen of institutions in the United States preparing teachers of vocational agriculture were mailed a survey instrument. Of the 84 questionnaires sent, 78 were returned. The 78 institutions reporting included 12 in the North Atlantic Region, 34 in the Southern Region, 20 in the Central Region, and 12 in the Western Region.

Findings. Ninety per cent of the institutions reimburse cooperating teachers an average of 70 dollars per student teacher. About 30 per cent of the schools provide fee waivers to cooperating teachers. One-third of the institutions pay mileage to student teachers for occupational experience program visitation. The sources of the mileage funds are about evenly divided between the university and the local cooperating school. Two-thirds of the teacher preparation programs emphasize student teacher participation in community agricultural agencies and organizations. The Atlantic Region institutions reported issuing more specific teaching certificates in the taxonomies of agriculture than did the other regions. Several institutions indicated they were interested in certification of teachers by a specific taxonomy in agriculture.

About one of seven institutions indicated summer experience was a part of the student teacher preparation program. Generally, the summer experience encompassed two weeks. Only three departments placed student teachers for less than a full day in the cooperating school. The average length of student teaching required among all institutions was nine and one-half weeks with a range of six weeks to 20 weeks. Sixty per cent of all departments required eight to ten weeks student teaching.

Predominantly, departments of agricultural education are in the College of Agriculture with about one-third in the College of Education. Twelve quarter credit hours (or seven and one-half semester hours) credit for student teaching was the average of all the institutions reporting. Twenty schools were on the quarter system and 58 were on the semester system. About 28 per cent of the departments give pass-nonpass marks for student teaching with some indication of interest in changing to this practice among others. Generally, departments required from 60 to 80 quarter hours or 45 to 60 semester hours of technical agriculture.

5. CARLSON, Dwayne S., Factors Affecting Participation in State FFA Activities in Wisconsin. Thesis, M.S., 1971. Wisconsin State University, River Falls.

Purpose. The purpose was to determine whether the lack of chapter participation in state sponsored FFA activities was related to one or more of the following areas: (1) age and teaching experience of the Vo-Ag instructor; (2) teaching load of the Vo-Ag instructor; (3) local school policies; (4) vocational agriculture departments' geographical location within Wisconsin; (5) activities within the local chapter; (6) Wisconsin State Association policies.

Method. Eighty instructors were randomly selected from four levels of participation in state FFA activities, (0-4, 5-8, 9-12, and 13 or more) for the school years 1968-69 and 1969-70. To assure more comparative results only schools with one Vo-Ag instructor per department were used in the survey. Information for this study was obtained from 78 instructors teaching vocational agriculture in the State of Wisconsin during the 1970-71 school year.

Findings. Over one-half of the Vo-Ag departments exceeded enrollment of 50 students and had instructors teaching only vocational agriculture classes during the school day. As class enrollment in one instructor departments exceeds 100 students, the participation level in state FFA activities declined.

Thirty-six per cent of the Vo-Ag instructors participating in state FFA activities were under 30 years of age and 64 per cent were less than 40 years old. Participation in state FFA activities increased as years of teaching experience increased. Over half of the schools had a teacher turn-over in their vocational agriculture department during the past decade. FFA chapters experiencing high instructor turn-over tended to be lower participators in state FFA activities.

FFA as a unit of instruction was taught by 97 per cent of the instructors. FFA chapters who had more high school graduates, or members who more frequently used the official FFA ceremonies at their meetings were likely to be high participators in state FFA activities. The larger membership chapters were most likely to be higher participators in state FFA activities. About one-fourth of the participants felt the names Future Farmers of America and Vocational Agriculture affected their chapter and class size.

A higher participation in state FFA activities is indicated in school systems where the administration has an understanding of what is involved in state FFA activities. Administrators are not opposed to participation in state FFA activities and agriculture field trips. Buses or other school vehicles are available to departments for this purpose.

Although there was not a substantial difference between participation groups as to their involvement in local chapter activities, the number of local FFA activities gradually increased as the chapters increased their participation in state FFA activities. The high school FFA chapter who would most likely be a high participator in state FFA activities had: (1) an experienced instructor whose tenure in that department was ten years or more; (2) taught only Vo-Ag classes; (3) less than 100 students in his high school Vo-Ag classes of which most would be FFA members in addition to several graduate members; (4) good rapport with high school administration; (5) members who were aware of state FFA activities; (6) a well developed program of local FFA activities; (7) indicated satisfaction concerning the assistance received from the state FFA office and officers; (8) favored change in FFA and Vocational Agriculture to include change in activities and the names of FFA and Vocational Agriculture.

6. CHEN, Paul Mean-Shung, A Study of the Characteristics and the Education and Occupational Attainments of Graduates from the Five-Year Vocational Agriculture School System in Taiwan. Colloquium Paper, M.S., 1971. North Dakota State University, Fargo.

Purpose. (1) To determine the general characteristics of graduates from the Five-Year Vocational Agriculture School System with respect to sex and family background; (2) to determine their further education after graduating from the Five-Year Vocational Agriculture School; (3) to determine the occupational status of graduates from the Five-Year Vocational Agriculture Schools in the year 1968; (4) to secure opinions of the graduates regarding the adequacy of their training in the Five-Year Vocational Agriculture Schools for their occupations; (5) to determine the importance of curricula and major divisions in relation to their present jobs as viewed by the graduates from Five-Year Vocational Agriculture Schools; (6) to determine the extent to which the graduates from Five-Year Vocational Agriculture Schools were employed in farming and other agricultural occupations.

Method. The study was limited to the 1964 Vocational Agriculture graduates of selected Taiwan Five-Year Vocational Agriculture schools. The data in this study were gathered by Dr. O. Donald Meaders in 1968 as a part of his research project in "A Preliminary Report on a Study of the Educational and Occupational Attainments of Senior Graduates from Taiwan Academic Middle Schools and Vocational Agriculture Schools."

Mail questionnaires and personal interviews were used for gathering data. Systematic proportionate sampling procedures were utilized to select graduates from Five-Year Vocational Agriculture Schools in the year 1964. Frequency data and proportions were prepared to present the findings.

Findings. Five per cent of the graduates from the Five-Year Vocational Agriculture System in this study had attended or were attending colleges or universities. According to the opinions of the graduates, the Five-Year Vocational Agriculture programs should be properly revised to meet the needs of the Vocational Agriculture students as well as the communities. Many of the Five-Year Vocational Agriculture graduates (53.57 per cent) reported that they chose their career or occupation after graduation and both they themselves and their parents or relatives were the most helpful persons in choosing a career. It seemed the Vocational Agriculture Schools did not play an important role in helping the students choose their future careers.

7. CREAGER, Marvin, A Follow-Up Study of LaCygne High School Male Graduates Between the Years 1960-1969. M.S. Report, 1971. Kansas State University, Manhattan.

Purpose. To identify the occupational status of vocational agriculture and non vocational agriculture graduates of LaCygne High School for the years 1960 to 1969.

Method. A questionnaire was developed and mailed to 139 male graduates for whom addresses could be obtained. This was filled out and returned by 110 or 76.4 per cent.

Findings. The results indicated that 93.3 per cent of the boys who had taken vocational agriculture were from the farm; and of the boys who took it, 38.3 per cent were in some phase of farming. Farm mechanics was considered the most important phase of vocational agriculture by 45.2 per cent of the graduates. When asked what they should have had but did not, math and vocational or technical courses were listed most often. The earnings of Vo-Ag graduates tended to be in the center of the earnings distribution with non Vo-Ag graduates having a higher frequency of earnings in both the upper and lower ranges. About the same percentage was found in both groups who held college degrees. The results of this study indicated the graduates of LaCygne High School were successful, with less than 1 per cent unemployment. About half the Vo-Ag graduates were in farming and ag-related jobs and about one-fifth of the non Vo-Ag graduates were in ag-related jobs. The holding power of the Vo-Ag department was strong with 81.3 per cent of the Vo-Ag students completing all four years. Forty-three per cent of the male graduates completed two or more years of Vo-Ag. The percentage of Vo-Ag graduates was fairly constant over the first eight years but increased in the last two years. In the first three years of the ten year period, more Vo-Ag graduates obtained some form of post-secondary education. It appeared the educational programs here were flexible and successful. Recommendations were made to continue this flexibility and emphasize agricultural occupations to include competencies in other fields.

8. DE LA CRUZ, Teofilo C., A Comparative Study of the Undergraduate Program in Agricultural Education of Some Institutions in the United States and the Philippines. Thesis, M.S., 1971. University of Minnesota, St. Paul.

Purpose. To study the undergraduate curriculum in agricultural education of six selected American state universities and of the Mindanao Institute of Technology in the Philippines as basis of formulating basic recommendations for the upgrading of the MIT agricultural education program.

Method. Six American state universities were selected based mainly on their geographical locations. A copy of the curriculum in agricultural education was requested from these institutions including the MIT. From these materials course offerings with their corresponding credit hours were summarized by areas and fields in tabulated form. From these tables comparisons were made among the different curricula. Credit hours of institutions that operate on semestral basis were converted to quarter credit hours.

Findings. The total hours required for the B.S. degree in agricultural education among the six American institutions has a range of 192-204 hours with an average of 200 compared to that of the MIT which is 240 hours. The minimum total hours required in agriculture has a range of 60-87. The total hour requirement for certain specific fields in agriculture vary. Based on the number of hours alloted to a given field, the different curricula vary in the field of emphasis in agriculture. The total hour requirement in professional education has a range of 25-45 among the six American institutions with an average of 34.9 compared to that of the MIT which is 52.5 hours. There is more or less similar trend among the seven curricula on the proportion of general education in the total program, the range percentagewise (43-51 per cent) being narrower than those of agriculture and professional education.

There are 64 courses listed under agriculture. The number of course offerings by institution has a range of 9-18. A wide range of elective courses in agriculture is provided in most of the American institutions while MIT allows very limited election. Only three out of 39 listed courses in professional education are offered by at least 3-4 of the seven curricula. Course offerings in general education are more or less common among the seven institutions.

9. DEWAR, Dale Virginia, A Study in Selected Factors; Self-Other Perception; and Attitude Toward Competition of Canadian 4-H Award Winners and 4-H Drop-Outs. Thesis, M.S., 1971. The University of Wisconsin, Madison.

Purpose. The purposes of this study were to: (1) describe selected factors which distinguish Canadian award winners and drop-outs; (2) to determine the attitude that each holds toward competition; and (3) to categorize each on the basis of acceptance of self and acceptance of others.

Method. Bills suggested that people can be categorized on the basis of how they perceive themselves and other people; that using this method of categorization there are plus-plus, plus-minus, and minus-plus people. Plus-plus for example, have a positive acceptance of self and others.

Dildine predicted the effect of competition (self-centered) upon Bills' three types of persons. Dildine states that competition would have a neutral motivating effect upon the plus-plus person; a minus-plus person would be threatened by competition; and the plus-minus person likes a competitive situation because he is basically self-centered. The minus-minus person was characterized by this researcher as being threatened by competition.

Two hundred 1970 award winners and 128 4-H members of 1969-70 who did not re-enroll for the 1970-71 year, answered a mail questionnaire in the spring of 1971.

A combination of both descriptive and inferential statistical techniques were used to fulfill the objectives and test the hypotheses of the study.

Findings. It would seem that the demographic information--sex, residence, siblings in 4-H and so on--uncovered by this study is not particularly useful in distinguishing between award winners and drop-outs. The more important variables are related to club activities, involvement in these activities--both competitive and non-competitive--achievement and success in activities other than 4-H and parental organizational participation.

Analysis of variance, chi-square, and Spearman's Rank Correlation Coefficient were used to test the hypotheses. (1) Award winners have higher acceptance of self scores than drop-outs--accepted; (2) Drop-outs have higher acceptance of others' scores than award winners--rejected; (3) More award winners than drop-outs can be categorized as plus-plus and plus-minus while more drop-outs than award winners can be categorized as minus-plus and minus-minus--accepted; (4) award winners have a more favorable attitude toward competition than drop-outs--accepted; (5) of the award winners, the plus-minus people will have the most favorable attitude toward competition, followed by the plus-plus, minus-plus, and minus-minus, respectively--accepted; (6) of the drop-outs, the plus-minus people have the most favorable attitude toward competition followed by the plus-plus, the minus-plus and the minus-minus, respectively--rejected.

10. DILLON, Roy D., Employment Opportunities and Competency Needs for Horticultural Workers in Lancaster County, Nebraska. Staff Study, 1971. University of Nebraska, Lincoln.

Purpose. The problem was to determine (1) the employment opportunities in the next one and three years; (2) common and specialized course requirements of horticultural workers in each level of job in Lancaster County, Nebraska.

Method. Data were collected from a stratified random sample of 21 horticulture businesses from the nurseries, garden centers, florists, golf courses, tree service, and lawn care firms in Lancaster County.

Findings. There were an estimated 496 employment opportunities during the next one year in Lancaster County, Nebraska, where 14 per cent of Nebraska's total population lives. Of this 496 total, 380 openings will be for entry level jobs.

According to employers, since nearly three-fourths of the entry jobs are seasonal, a high turnover occurs. A contributing factor to the turnover is that new entry workers lack preparation for the jobs.

Employers indicate that about the same per cent of new employees are new to the labor force as migrate from other jobs. In either case, there appears to be a need for preparing the new workers with horticultural skills while in high school, and for retraining migrating workers.

The second objective of the study was to determine the common and specialized courses needed by horticultural workers. A list of 23 different horticultural courses was identified from previous research, and each employer was asked to indicate which of the courses the workers in each job title should have in order to perform their job. These courses were checked as needed for the workers in the job title identified.

From the data gathered, it is evident that persons preparing for several different jobs may require common courses, and may be enrolled together while in high school. Specialized courses may be offered for persons in specific job titles while in high school or on the job.

11. DILLON, Roy D. and PETERSON, Roland L., The Influence of Video-Taping Technique on Student-Teacher Behavior in the Classroom. Staff Study, 1971. University of Nebraska, Lincoln.

Purpose. The central problem of this investigation was to determine whether the patterns of student interaction with student teachers in the classroom, as measured by the Flanders system of interaction analysis, could be modified by using video-tape as a critique device.

The specific behavioral change desired in the student teacher was from a direct or teacher-centered type of classroom interaction to an indirect or student-centered type of classroom interaction.

Method. The procedure used in this study was to randomly select two groups of senior students who would be spending six weeks in a secondary school performing their student teaching in vocational agriculture, and under the supervision of a supervising teacher.

Group One (I) consisted of four randomly selected student teachers. In the second week of their supervised teaching experience, a 20-minute portion of a class was audio taped. In the sixth week a second 20-minute portion of the same class was video taped.

Group Two (II) consisted of six randomly selected teachers. In the second week of their supervised teaching experience, a 20-minute portion of a class was video taped. In the sixth week a second 20-minute portion of the same class was video taped.

All ten student teachers were treated alike in the critique procedure following the first and second taping sessions. The student teachers who were video taped on the first visit were allowed to observe their video taped lesson, and a critique discussion with the investigators and the student teacher was held concerning changes that could be made by the student teacher toward more indirect classroom interaction. The same critique approach was used with the audio taped group during the first visit; however, that group was not allowed to listen to their audio taped lesson.

The researchers randomly selected seven minutes from each 20-minute pre- and post-treatment observations for all student teachers in each group.

A profile of the interactions during each seven minute sequence was recorded by the investigators writing down the category number of the interaction observed, every three seconds. A total of 150 observations were recorded for each student teacher for pre-treatment and post-treatment data.

Findings. A 10 row by 10 column matrix was prepared for the pre-treatment and post-treatment data of each group. In the Group I pre-treatment, 63.0 per cent of the time the teacher was lecturing, compared to 59.2 per cent for teachers in Group II.

The data revealed the post-treatment teachers in Group I were lecturing 56.0 per cent of the time, while teachers in Group II were lecturing 46.8 per cent of the time.

In Group I the per cent of time devoted to teacher talk increased from 71.3 per cent on the pre-treatment observation to 77.1 per cent on the post-treatment observation. An examination of student talk categories eight and nine reveals there was an increase from 8.8 per cent to 11.8 per cent of the observed time devoted to student talk.

For Group II, the per cent of time devoted to teacher talk decreased from 67.1 per cent to 65.2 per cent from pre-treatment to post-treatment, and the amount of time devoted to student talk increased from 14.2 per cent to 17.4 per cent.

The data show there was a slight decrease in the per cent of time devoted to teacher talk, and an increase in student talk in Group II, as compared to an increase in teacher talk and student talk in Group I. Student teachers in both groups were asking more questions as a result of the critiquing techniques; however, teachers in Group II were using a greater variety of interaction procedures, more student initiated talk, and more acceptance of student feelings. As a result of this investigation, it may be noted that the process of critiquing student teachers with the use of an audio tape recorder as compared to a video tape recorder revealed that teachers tended to become somewhat more indirect in their teaching when video taped and critiqued on two occasions.

12. DOUGLASS, Richard L., A Pilot Study of the Influence of Mediated Career Information Via Significant Others on Aspirations, Understandings, and Attitudes of Eighth Grade Students. Thesis, Ph.D., 1971. Library, University of Nebraska, Lincoln.

Purpose. The purpose of this study was to evaluate the effectiveness of mediated career information via significant others on occupational aspirations, understandings, and attitudes of eighth grade students.

Method. The study involved 152 eighth grade students enrolled during the spring of 1971 in Goodrich Junior High School, Lincoln, Nebraska. The students were randomly assigned to the treatment groups. There were a total of 55 students in the experimental group and 49 in the control group. The remaining students were eliminated from the study because they shared one or more significant others with students in the experimental group.

A total of 254 significant others as identified by the experimental group, were contacted by letter and/or phone. They were apprised of their role as significant others and invited to watch 35mm slide and audio tape presentations on 100 different occupations. A total of 41 significant others attended one or more sessions. The total number of contact hours with significant others was 173.5.

Findings. Given the type of materials, the time span, and limited participation on the part of significant others, the results indicate that: (1) Mediated career information via significant others will effect no measurable change on occupational aspirations, understandings and attitudes of eighth grade students; (2) Mediated career information will cause significant others to expect youth to reach lower prestige level occupations; (3) Mediated career information will receive a favorable evaluation by significant others.

13. EL-ZOOBI, Ahmad Mouhamad, Agricultural Extension and Rural Development in Syria, 1955-1968. Dissertation, Ph.D., 1971. Library, The Ohio State University, Columbus.

Purpose. To better understand the role of agricultural extension education in the development of rural areas in emerging countries. The specific objectives of the study were to investigate the relationship between agricultural extension educational programs and agricultural development and to formulate guidelines for rapid agricultural and rural development in Syria.

Method. An initial list of variables was selected with reference to the objectives of the study. Variables were identified, quantified, or described through the following sources of data: official records and statistics of the Syrian government: official records and production yearbooks of the FAO of the United Nations; the Ford Foundation and other international agencies studies about Syrian agriculture; current literature; and the writer's knowledge and experience gained through his work in the Ministry of Agriculture and Agrarian Reform in Syria. A comparison between the steppe region including the tribal community and the other segments of rural areas was made with regard to the availability of extension programs and the socio-economic achievements of people.

Findings. The innovation of the agricultural cooperative movement has been a sole result of extension work. The constitution of the agricultural cooperative sector and the economic, agricultural, and social activities demonstrated by this sector indicate that the cooperative family type of farming will be the most idealistic farming in Syria. Agricultural extension educational programs had special significance for the process of economic and social change and make a vital and positive contribution to agricultural and rural development in Syria.

The greater the number of agricultural engineers, the more intensive the agricultural extension program, the more adoption of agricultural innovations, and the higher the rate of agricultural and rural development in Syria. Agricultural extension educational programs should be an integral part of all projects designed for agricultural and rural development in developing countries. The agrarian reform in Syria proved to be an effective institutional vehicle for the agricultural extension program. Thus agricultural extension educational programs should be an integrated part of the agrarian reform movements in developing countries.

14. ERWIN, Raymond M., Three Studies to Determine the Importance of FFA Contests as Used in the Curriculum by Minnesota Vocational Agriculture Instructors. Colloquium Paper, 1963. University of Minnesota, St. Paul.

Purpose. To determine to what extent Minnesota Vocational Agriculture instructors incorporate FFA contests into classroom curriculum, which contests were deemed most valuable, and to determine which contests were thought to be in need of revision to increase their value for students in Vocational Agriculture.

Method. Three separate but related and mutually supporting surveys were conducted by mail to three populations of Vocational Agriculture instructors, totalling 172 men. Each survey group was selected on a different basis and without duplication. The first population consisted of 61 instructors, equally selected from throughout each of the 16 Minnesota FFA districts. The second group of instructors was of 84 men who had entered FFA contest teams in the gold, or top, group at the Minnesota FFA state contests. The third group totalled 27 instructors in two contiguous FFA districts (Region IV).

The studies covered 21 FFA contests offered in either district or state events. Identified were findings as to relative popularity or use of the contests, opinions of instructors as to values of contest competition, methods of team preparation, estimates as to attitudes toward contests among the FFA members, and estimations and attitudes regarding which contests were most in need of revision.

Findings. The relative interest among FFA members (88 per cent) in contests and the general agreement among instructors (90 per cent) that FFA contests were valuable in Vocational Agriculture and FFA did not match the finding that Minnesota Vocational Agriculture departments enter but 40 per cent of the contests offered on the district level.

Methods of preparing FFA contest teams showed a small percentage of departments incorporating such contests exclusively into class preparation and curriculum (25 per cent). The most successful, or gold emblem, teams, were found to shift the method of preparation away from exclusively class preparation to a combination of in-class preparation combined with outside training.

Opinions of Minnesota Vocational Agriculture instructors regarding need for revision in certain contests were strongly correlated with those contests least entered, such as Farm Management.

The relative disparity of use of FFA contests identified among the various Minnesota Vocational Agriculture departments reflects the disparity of attitudes toward FFA in the Vocational Agriculture curriculum and the opportunities for youth enrolled in Vocational Agriculture. It is suggested that a continued investigation into the design of FFA contests with an effort toward more coordination with Vocational Agriculture curriculum would better serve the purposes of FFA in developing technical education as well as leadership for students in Vocational Agriculture.

15. FECK, Vincent Joseph, Characteristics and Professional Competency Needs of Teachers of Agriculture in Two-Year Technical Institutes or Colleges in the United States. Dissertation, Ph.D., 1971. Library, The Ohio State University, Columbus.

Purpose. To seek information which will be helpful to teacher educators in planning professional education programs for post-secondary technical teachers of agriculture. The specific objectives of this study were to identify educational and occupational characteristics of technical teachers of agriculture and administrators of agricultural technology programs in two-year technical institutes or colleges in the United States; to identify perceptions held by teachers, administrators, and state supervisors of vocational agriculture concerning the importance of 117 professional education competencies; to determine the teachers' degree of proficiency in each of the competencies; and to explore relationships and compare responses within and between groups surveyed.

Method. Data were obtained from a stratified random sample of two-year institutes or colleges in the United States offering agricultural technology curriculums. There were 261 participants including 160 technical teachers of agriculture, 60 administrators of agricultural technology programs, and 32 state supervisors of vocational agriculture. This was a 52 per cent response from full-time teachers, a 13 per cent response from part-time teachers, a 72 per cent response from administrators, and a 73 per cent response from supervisors.

Findings.Most technical teachers of agriculture had attained a Bachelor's degree in a specialized subject of agriculture and a Master's degree in agricultural education, had responsibilities in the areas of guidance and counseling in addition to teaching, had taught at the technical level for five years, had eight years of industry experience in production agriculture at the technical level or above, and taught sixteen hours per week. Most administrators of agricultural technology programs had a Bachelor's degree in agricultural education or general agriculture and a Master's degree in agricultural education, had responsibilities in the areas of teaching and guidance in addition to administration, had six years of teaching experience at the technical level, had eight years of industry experience at the technical level or above in production agriculture, and taught 16 hours per week.

Most of the 117 professional education competencies studied were perceived as above average in importance by the respondents as a qualification for being or becoming a successful technical teacher of agriculture. Competencies within the areas of planning for instruction, teaching, and public and human relations were most frequently rated highest in importance. Competencies within the areas of student organizations and teaching related to the newer audio visual aids were most frequently rated lowest in importance.

Teachers rated their degree of competence lower than they rated the importance of most professional education competencies. Full-time technical teachers of agriculture as well as those with pedagogical preparation perceived the importance of and their degree of competence in professional education competencies higher than those without these experiences and backgrounds. The nature and extent of varied responsibilities held by technical teachers of agriculture as well as the type and extent of their teaching experience had little or no association with their perception of the importance and degree of competence in professional education competencies. In-service professional education courses were desired by many technical teachers of agriculture; however, few in-service professional education offerings were provided for these teachers by local administrators or state supervisors of vocational agriculture.

Sixty-five per cent of the agricultural technology curriculums required an on-the-job training program for an average of four months. Forty-five per cent of the technical institutes had organizations exclusively for agricultural technology students.

16. FLYNN, Wayne R., A Study of the Role of the Worthington State Junior College in Fulfilling the Needs of Education in Agriculture for Southwestern Minnesota. Plan B Paper, M.A., 1971. University of Minnesota, St. Paul.

Purpose. To obtain data that will help evaluate the Worthington State Junior College agricultural program and to provide guidance for improving the curriculum and program for agriculturally oriented students.

Method. The author did a follow-up study of full-time students who were enrolled in an agricultural course and completed their training during 1960-1968. A questionnaire was developed to determine why the student enrolled, what his goal was at time of entrance, did he accomplish his educational objective, and his present vocation. The data were secured from the response to the questionnaire.

Findings. The students' closeness to home, low cost, agricultural offerings, and a period of academic adjustment, were the major factors for enrolling at Worthington State Junior College. Over 50 per cent of the students would not have attended the Worthington State Junior College if agricultural courses were not available. The largest majority of the students (52 per cent) planned to transfer to a four year institution, and 30 per cent planned to engage in farming after the completion of junior college. Most of the students in the study accomplished their goals. Fifty-five per cent transferred to a four year program and 31 per cent are farming. Seventy-one per cent completed six quarters and an additional 21 per cent completed at least one year of training. The study indicated that the junior college fulfilled a very important need for advanced education in agricultural fields for Southwestern Minnesota. Career-oriented programs would be an important asset to the agricultural curriculum.

17. GARRISON, Dan David, Guidance and Counseling Activities Pertaining to Post-High School Educational and Occupational Opportunities in Agriculture. Dissertation, Ph.D., 1970. Library, The Ohio State University, Columbus.

Purpose. To appraise guidance and counseling activities provided high school vocational agriculture students in Ohio pertaining to post-high school education and employment opportunities in agriculture.

Method. Data were secured from agriculture teachers, high school guidance counselors, and agriculture students in the most advanced class in area vocational schools and local schools. A random sample of 100 local schools and 10 area vocational schools having programs of vocational agriculture in Ohio was selected.

Findings. Activities that were an integral part of classroom instruction, such as relating employment opportunities in agriculture when teaching units of instruction, were used most frequently by the majority of agriculture teachers. Providing informative handout material and conferring with individual students were also important. The least frequently used activities were those involving outside resource people.

Area center agriculture teachers reported using the activities of cooperative work experience conferences with employers and discussion sessions other than regular classroom sessions more than high school teachers.

The major activities that most guidance counselors reported using to inform and counsel students about post-high school educational and employment opportunities in agriculture included the activities of providing informative handout material and conferring with individual students. Visiting students' homes and discussing opportunities with parents were the least used activities. Area center counselors reported less use of conferences with the agriculture teacher and individual students and more use of the activity involving post-high school educators as compared to the high school counselors. Responses indicated that agriculture teachers had some effect on students' intentions at graduation since the more activities the agriculture teachers used to inform students about educational and employment opportunities in agriculture, the greater the number of students that were retained in agriculture through post-high school education. Approximately half the students going on for further education indicated agriculture as the area of study. However, when the students accept immediate employment, only about 15 per cent were retained in agriculture.

Agriculture teachers and guidance counselors have not been effective in informing and counseling students about the opportunities in agriculture available through two-year, post-high school education. The large percentage of undecided agriculture students was an indication that teachers' and counselors' efforts to inform students about post-high school opportunities in agriculture were not sufficient or effective. Guidance counselors were most effective in informing and counseling students about educational and employment opportunities in agriculture by working through and with the agriculture teacher in arranging certain cooperative and supportive activities and providing information that aids in the tasks of informing the student. The counselors' role was less obvious and direct than the agriculture teachers' role since the counselor was involved with all students in all areas of interest and at far greater ratios than the agriculture teacher.

18. HANSEN, Herbert E., Experimental Evaluation of Video-Tape on Instruction in Vocational Agriculture. Dissertation, Ph.D., 1971. Library, Iowa State University, Ames.

Purpose. The purpose of this study was to investigate the effectiveness of video-tape instruction in selected vocational agriculture departments in Iowa. Specific objectives were: (1) to determine the effectiveness of video-tape in vocational agriculture as measured by student achievement; (2) to determine those factors which are related to achievement in vocational agriculture when video-tape is used; and (3) to determine the implications of the use of video-tape in vocational agriculture.

Method. Subject matter units common to the four grade levels of vocational agriculture were selected to be used as three-week instructional units. Twelve schools were randomly selected from the Iowa vocational agriculture departments with six assigned to each the treatment and control groups. A total of 348 students were in the treatment group and 232 were in the control group. Four video-taped segments were prepared for each of the four subject matter areas covering specific objectives to be taught on the days the tapes were to be shown. A pre-post test approach was used to measure change in student knowledge of the subject matter as a result of the treatment effect.

Findings. An analysis of variance revealed no difference between the treatment and control groups on the pre-test in all four subject matter areas. Significant differences (at the .05 level) between groups were observed in the small gasoline engines and animal health units in favor of the control group. These differences were not observed after covariance tests were made using covariates identified through step-wise regression analysis of variables associated with student achievement and included in the experiment. An analysis of variance of a two-factor experiment with repeated measures of pre-test and post-test scores resulted in no significant differences due to treatment effect for all subject matter areas. The gain in knowledge during the 15-day experiment was found to be highly significant beyond the one point level for all subject matter units studied.

19. HASKINS, Venton H., The Effects of Three Styles of Teaching on Student Achievement and Teacher-Pupil Verbal Interaction in Missouri Vocational Agriculture Departments. Thesis, Ph.D., 1971. Library, University of Missouri, Columbia.

Purpose. (1) To evaluate the effects of direct, indirect, and normal styles of teaching on the learning of ninth and tenth grade students using three measures of student achievement; (2) to investigate changes in teacher-pupil verbal interaction among the treatment groups which resulted from the assignment of teachers to specific styles of teaching; (3) to describe the style of teaching commonly used by teachers of agriculture in Missouri high schools.

Method. A teaching unit on "Careers in Agriculture" was prepared and taught over a one-week period consisting of five 50-minute classes, to ninth and tenth grade vocational agriculture students. Teachers and their students were randomly assigned to treatment groups. Teachers were randomly divided into three groups of three teachers with ninth grade classes and three groups of three teachers with tenth grade classes.

Three audio tape recordings of class discussions were made by each teacher. These were analyzed to determine the teacher's specific style of teaching. One tape was made prior to the experiment to establish the teacher's normal style of teaching. A second and third tape recording was made during and toward the end of the experiment. From these tape recordings the indirect/direct, revised indirect/direct, and student/teacher talk verbal interaction ratios were determined. These ratios provided data from which could be determined the change which occurred in each teacher's style of teaching.

A cognitive test measuring both quick-recall and critical-thinking was prepared, validated, and used to measure student achievement during the experiment. The effects of changes in verbal interaction were tested on student achievement measures. One-way and two-way analysis of variance statistics were used to analyze the data.

Findings. (1) Teachers of agriculture can change from their normal style of teaching to a direct or an indirect style when I/D ratic , R,I/D ratio, or S/T talk ratio is the criterion measurement; (2) there were no differences among the three styles of teaching (direct, indirect, normal) as measured by the scores of ninth or tenth grade high school vocational agriculture students on either a quick-recall type cognitive test or a combination (quick-recall plus critical-thinking) cognitive test. However, when a critical-thinking cognitive test was used as the criterion measure in ninth grade classes, students taught by teachers using a direct style of teaching scored significantly higher than a similar group of students taught by teachers using an indirect style of teaching; (3) teachers of agriculture tended to be more direct in their style of teaching as measured by the I/D and S/T talk ratios of verbal interaction. When the R,I/D ratio was used as the criterion measure, the teachers were more neutral in teaching style.

20. HEMP, Paul E., Behavioral Objectives for Agriculture. Staff Study, 1971. University of Illinois, Urbana.

Purpose. To identify and develop sample lists of behavioral objectives in selected areas of ornamental horticulture, agricultural supplies, agricultural mechanics, and production agriculture.

Method. An intensive review of literature was conducted to identify work previously accomplished in the area chosen for study. The subject matter content and job breakdowns for 13 occupational areas were studied. A preliminary list of behavioral objectives for each area was prepared and checked with teachers, subject matter specialists, and teacher educators in agricultural education. Revisions and refinements were made as needed.

Findings. More than 500 behavioral objectives were developed for the areas of turf management, greenhouse management, tool fitting, small engines, electricity, arc welding, batteries, tires, fertilizers, agricultural chemicals, corn production, swine production, and wildlife conservation. Suggested procedures to follow in writing behavioral objectives were identified and described. Lastly, suggestions for using behavioral objectives in the instructional program were presented as an aid to the teacher.

21. HENRY, Reginald D., Effects of Inservice Education in Verbal Interaction Analysis on the Performance of Student Teachers Before and After Entering the Teaching Profession. Thesis, Ph.D., 1971. Library, University of Missouri, Columbia.

Purpose. The purposes of this study were: (1) to develop an inservice education program which would cause student teachers in vocational agriculture to adopt an indirect style of teaching; (2) to determine whether the use of the inservice program would cause student teachers to alter their teaching style and be significantly more indirect; (3) to determine whether the change in style would continue to be used by the student teachers when they enter the profession; (4) to assess the changes in teaching styles which occurred between the first week of student teaching and the fourth month of teaching among those who accepted teaching positions and who were in a control group.

Method. A replicated, pretest-test-posttest control group design was used. The population of the study was comprised of all the student teachers during the fall and winter semesters 1969-70 in agricultural education at Illinois State University. The student teachers enrolled for the fall semester constituted the population for the first replication of the study and those enrolled for the winter semester constituted the second replication. The student teachers were randomly assigned to either a control or an experimental group. The treatment, administered to the experimental groups during the fourth week of the nine-week student teaching period, consisted of a one-day inservice education program designed to cause the student teachers to use a more indirect style of teaching. Three audio tapes were made for each student teacher while he was teaching. The pretest tapes were made during the first week of student teaching, the test tapes during the last week of student teaching, and the posttest tapes during the fourth month of the first year of teaching. The amount of indirectness being used by each student teacher was determined by use of the Flanders' system of verbal interaction analysis.

Findings. (1) The analysis of covariance indicated that the inservice education program developed was effective in increasing the amount of indirectness used by the student teachers; (2) there was no statistically significant change in teaching styles for the members of the control group from the first week of student teaching to the fourth month of the first year of teaching.

22. INGVALSON, Brian Irvin, A Study of Attitudes and Attitudinal Changes of Student Teachers During the Student Teaching Experience. Thesis, M.A., 1971. Library, University of Minnesota, St. Paul.

Purpose. To determine the relationship of changes in student teacher attitudes to the student teacher's grade received from his experiences, and whether or not the student entered the teaching field upon completion of his requirements for a degree in vocational agriculture education.

Method. A semantic differential measurement instrument was selected as a means of measuring attitude and attitude change toward student teaching. The instrument was administered to three groups of student teachers in agricultural education at the University of Minnesota immediately before and immediately after the student teaching experience. A total of 80 students were used in the study.

Findings. The following findings and interpretations regarding student teaching and attitudes were made from the study. All statements are based on statistical studies at the .05 level of significance. (1) Student teachers improved their attitude toward student teaching during the student teaching experience; (2) student teachers with high positive attitude scores had high student teaching grades; (3) whether or not a student teacher pursues vocational agriculture as a career cannot be predicted by his attitude change score; (4) the higher the student teacher's grade, the more likely the student will seek employment in vocational agriculture education after graduation; (5) the higher the attitude, as measured by post-test only, the higher the grade received by the student teacher; (6) there is not a significant relationship between attitude, as measured by post-test only, and student seeking employment as a vocational agriculture instructor.

23. IVERSON, Maynard James, Guidelines for the Development of Student Organizations Associated with Agricultural Programs at Two-Year, Post-Secondary Educational Institutions in the United States. Dissertation, Ph.D., 1971. Library, The Ohio State University, Columbus.

Purpose. To develop guidelines for use in the initiation and operation of student organizations associated with agricultural programs at two-year, post-secondary educational institutions in the United States. Specific objectives were to determine current status of the clubs, past modifications and future trends, and major constraints institutions have regarding agricultural student organizations; and to synthesize, refine, and evaluate guidelines for use in the development and operation of such groups.

Method. A review of related literature, a national survey by questionnaire, the experience of the writer and his advisers with youth groups, and a jury of practitioners were utilized in developing the guidelines.

The survey included 215 post-secondary institutions with agricultural offerings, 100 of which were identified by state officials as having related student organizations and 115 (a 50 per cent random sample) of the remaining institutions. Usable responses were received from 163 institutions.

Findings. Two-thirds of the institutions had agricultural student clubs. These institutions were mostly young, medium-sized, urban, community or junior colleges offering varied programs to a growing, coeducational enrollment. The typical agriculture department provided several program areas, gave associate degrees, was supervised by the state department of education, and had one student club in which one-half of those enrolled were members. Agriculture students were primarily single, young, Caucasian men from average farm homes. Most had been former youth club members and were employed part-time.

Statistically significant factors which had affected the establishment of the clubs were name and size of the department, chairman's attitude, school policy, and several student characteristics. Students and instructors were mainly involved in starting clubs. Most of the clubs were young, traditionally structured, departmental groups engaged in leadership, social development, and program-assistance activities. The groups were primarily independent with little interest in affiliation with the FFA. Almost all were local, but clubs in several states had moved toward forming statewide groups. Membership was less than one-half of the potential; however, most members participated in at least one major activity and continued as members into the second year. Most organizational finances were from dues and fund raising. Meetings, social activities, and travel comprised the major outlays. Most clubs had changed little since starting. Trends were indicated for increased and diverse programs, state groups, local subgroups and expanded scope. Major problems concerned membership, participation, financing, and student time constraints.

Ten major guidelines and 69 supporting statements were devised and approved by a majority of a representative jury of practitioners responding to the questionnaire. The guidelines dealt with the following: the organizational role, initiating procedures, objectives, name, membership, leadership, organizational levels, coordination with other groups, activities and finances.

24. IVERSON, Maynard J. and BENDER, Ralph E., Agricultural Technician Education in Ohio, 1969-70. Research Report, 1971. The Ohio State University, Columbus.

Purpose. To identify the characteristics of technical agriculture students in Ohio and to determine the association between selected student characteristics, student success in the technical programs, and their later success in the world of work. Specific objectives included determining enrollments, drawing and holding power of the programs, characteristics of enrollees and students, forces influencing enrollment in and completion of programs, satisfaction with technical education, and the adequacy with which the programs met the needs of students, graduates, and employers.

Method. Data were secured from 220 enrollees, 107 second-year students, 57 graduates (one year after graduation), 29 employers, and 40 dropouts and from the cumulative records of the eight technical institutions participating in the study. The technician education programs were Agri-Business, Agricultural Management and Accounting, Agri-Equipment, Diesel Mechanics, Food Processing, Forestry, Horticulture, Natural Resources, Recreation and Wildlife, and Water Pollution Control.

Findings. In 1969-70, 425 students were enrolled and 107 graduated from 11 Ohio technical agriculture programs. Four new programs and a 60 per cent increase in initial enrollment were recorded over the 1968-69 term. The dropout rate was nearly 25 per cent with older programs having lower discontinuance. Over 60 per cent of the first-year students lived within 50 miles of their respective institution, and only 3 per cent beyond 200 miles. The typical enrollee was 19.3 years old, a high school graduate with a 103 intelligence quotient, who had achieved a 2.38 grade point average and ranked at the 46th percentile in his high school class. Over one-half of the enrollees were from farm homes, and they preferred outdoor work. Nearly all enrollees worked during high school in agricultural jobs. Students enrolled in technical programs primarily because they believed it would increase their earning power.

High school grade point average, class rank, and science and English grades were best indicators of an individual's ability to succeed in the technical agriculture program. A majority of the students worked nearly 30 hours per week for about 27 weeks during technical school. Concern for desirable employment, opportunity for training and advancement, and high pay influenced students both in completion of the technical program and selection of the first position. On-the-job training, student contacts, and classwork in agriculture were considered to be the most valuable preparation for a job. Eighty-nine per cent of the students desired a student organization for social, program support, and leadership development.

One year after graduation about one-half of the graduates were in the military; of the remainder, 70 per cent were employed as agricultural technicians. Most graduates were happy with their jobs and would re-enroll in technical school. Beginning salaries averaged $460 per month; after one year, the average monthly salary was $553.

Employers agreed with students and graduates in their high rating in integrity, cooperation, appearance, courtesy, and friendliness and lower competencies in judgment and leadership. However, graduates were generally considered adequately prepared for the duties they needed to perform on the job.

Dropouts gave dissatisfaction with program, parental advice, lack of money, and low grades as major reasons for discontinuance. Starting salaries of dropouts averaged $401. A majority said technical school was helpful to them.

25. JINDRA, Gordon George, Predicting Student Success in Agri-Business Materials Handling at the Mankato Area Vocational Technical Institute. Thesis, M.S., 1971. Library, University of Minnesota, St. Paul.

Purpose. To determine if a method can be devised to predict a student's achievements or success in Agri-Business Materials Handling at the Mankato Area Vocational Technical Institute from information gathered by standardized tests and on the students' entrance application form.

Method. The writer sampled students who had previously enrolled in the Agri-Business Materials Handling course. Records of scores on the Differential Aptitude Test, the General Aptitude Test Battery, the Bennett Mechanical Test, quarters of High School Vocational Agriculture and Industrial Arts, and High School Rank were selected as independent variables, with the final grade in Agri-Business Materials Handling as the dependent variable.

The data were statistically analyzed by the correlation of coefficient method to determine if there were any significant factors to help predict students' success in the course. Step wise multiple regression helped determine the variables that possess significant predictive qualities.

Findings. The student success in the Agri-Business Materials Handling course as illustrated by final grades can be predicted from the Bennett Mechanical Test, General Aptitude Test Battery (G), and the Mechanical Reasoning (DAT) for students with interests strictly in the physical shop tasks. For individuals with interest in the partsman, or designing skills, the Numerical Ability (DAT), Mechanical Reasoning (DAT), and Space Relations (DAT) are the best predicting variables.

Students being interviewed for similar mechanics courses should have high aptitudes in those predictive variables aforementioned to best suit their future goals. Selection of students based on results of this study should ensure that students in the course will have a better chance of succeeding.

26. KLABENES, Robert E., Assessment of the Results of an Inservice Education Program for Post-Secondary Vocational-Technical Education Instructors. Dissertation, Ed.D., 1971. University of Nebraska, Lincoln.

Purpose. The purpose of this study was to assess the results of an inservice education program designed to assist post-secondary vocational-technical education instructors in modifying their classroom teaching behavior. The primary intent of the workshop was to increase instructors' skills in recognizing component aspects of classroom instruction. An implied purpose of the workshop and subsequent treatment was to encourage instructors to accept the need for continual modifications in their classroom teaching behavior. For purposes of this study, instructor classroom teaching behavior was classified into four specific component aspects: (1) psychomotor domain instructional objectives; (2) instructor teaching methods; (3) instructor verbal expressions; and (4) instructor non-verbal expressions.

Method. Seventeen instructors from the Nebraska Vocational Technical College, Milford, Nebraska, participated in the study. The pre-test consisted of three 20-minute tapings of each instructor in a classroom session presenting three different learning concepts. At the end of the pre-test, all instructors participated in a six-hour inservice education workshop.

The post-test comprised three 20-minute video tapings of instructors presenting the identical learning concepts as during the three pre-test tapings. Each post-test taping was analyzed by the particular instructor with the assistance of the investigator.

Data were collected by having trained raters use a modified form of Roberson's "Self-Appraisal Instrument."

The basic question of the study was: "Did post-secondary vocational-technical education instructors significantly change their classroom teaching behaviors during the pre- and post-test?" Additional questions were asked to determine whether the changes would reflect (1) greater utilization of higher Ievel instructional objectives within the psychomotor domain; (2) employment of the more open-ended teaching methods; and (3) increased use of the more encouraging verbal and non-verbal expressions.

Findings. (1) Concerning the question: "Did post-secondary vocational-technical education instructors significantly change their classroom teaching behaviors during the pre- and post-test?" analysis of the data yielded the following F values: (a) 2.98 for instructional objectives within the psychomotor domain; (b) 3.00 for instructor teaching methods; (c) 4.58 for instructor verbal expressions; and (d) 7.45 for instructor non-verbal expressions. All F values were statistically significant at the .05 level, indicating instructors did exhibit significant changes in their classroom teaching behaviors.

(2) The second question posed by the study was: "Did instructors utilize higher level instructional objectives within the psychomotor domain during the video tapings taken after the workshop when compared with the tapings taken prior to the workshop?" Analysis of the data yielded an F value of 1.86, which led to the conclusion that instructors did not, in fact, incorporate higher levels of instructional objectives.

(3) An F value of 2.11 was yielded for the question: "Did instructors employ more open-ended teaching methods during the post-tapings than during the pre-tapings?" This was not statistically significant; hence, no evidence was obtained that more open-ended teaching was employed.

(4) Analysis of the data concerning the final question: "Did instructors exhibit more encouraging verbal and non-verbal expressions during the post-tapings than during the pre-tapings?" yielded an F value of 5.14 for verbal expressions and 5.91 for non-verbal expressions. Both values were statistically significant; consequently, the evidence supported the hypothesis that the inservice education workshop and ancillary treatment produced greater utilization of the more encouraging verbal and non-verbal expressions.

Although all changes were not consistent with the stated hypotheses, this study demonstrated that an inservice education program which incorporates self-appraisal techniques can assist post-secondary vocational-technical education instructors modify their classroom teaching behaviors.

27. KLINE, Cernyw Kenneth, The Design and Preliminary Testing of a Mechanization Training Program for Trainees with Low Levels of Education. Dissertation, Ph.D., 1971. Library, Michigan State University, East Lansing.

Purpose. The objective of this research study has been to plan, design, produce and pre-test a machinery operator's training program tailored to meet the special needs of trainees with low levels of education and/or non-mechanical backgrounds. The resulting Basic Tractor Operators' Course used the systems engineering approach to create a modified structured learning and training environment (SLATE) to increase the effectiveness of training. It emphasizes cross-cultural transfer of advanced technology in the shortest possible time with minimum cost.

Method. To serve the many machines in the job cluster of machine operators, a universal format was developed around the 50 to 100 horsepower diesel-engine agricultural wheel tractor. The possible generalization of this course to fit other machines was kept in mind during the development. The Basic Tractor Operators' Course for Grade I operators, minimally qualified, is built around measurable behavioral objectives, information for trainees, practical trainee exercises, suggested visual aids and teaching techniques. The 65 lessons of the course form the basis of an Instructor's Manual developed to guide instructors in teaching BTOC.

Findings. The BTOC was field-tested with Spanish-speaking adult migrant trainees of Puerto Rican and Mexican descent in central Michigan. The course was conducted half-time over an eight-weeks' period from April to June, 1970. Using a one-to-four instructor-to-trainee ratio in small group training activities, the course stressed "hands on" learning with instruction individualized to meet trainees' needs. Of the 12 migrants completing the program, ten--or 83 per cent--were certified as qualified Basic Tractor Operators, Grade I.

Further testing is needed to validate the course design and training format in actual cross-cultural conditions with their unique constraints. Based upon the preliminary test with migrant laborers, the belief is that this type of performance training is applicable overseas and that it will result in a superior type of training with significantly less time and cost.

One of the most important lessons learned during the Michigan trial was that instructors, no matter how well they might appear to be qualified, must be trained to work across cultural boundaries with disadvantaged trainees. A special training program was then developed to aid teachers in effectively using the "Instructor's Manual" as a guide and basic resource. This study has helped in developing a training program which can make instructors more effective and trainees more responsive.

28. KROENLEIN, John W., A Study of the Importance of Individualized Instructional Techniques in Agricultural Mechanics as Expressed by Agricultural Mechanics Instructors and Agricultural Mechanics Employees. M.S. Report, 1971. Kansas State University, Manhattan.

Purpose. The purpose of this study was to determine the most effective individualized instructional techniques for an agricultural mechanics course of study.

Method. Data were collected by a questionnaire filled in by 41 agricultural mechanics instructors in community junior colleges and vocational technical schools and 31 agricultural mechanics employees. The responses given were analyzed by assigning a weighted value. The items were rated: Essential--4 points; Very Important--3 points; Important--2 points; Little Importance--1 point; and No Importance--0 points. Educational media were classified: Essential--3.50 to 4.0 points; Very Important--2.50 to 3.49 points; Important--1.50 to 2.49 points; Little Importance--0.50 to 1.49 points; and No Importance--0.0 to 0.49 points.

Findings. The results of the study indicated both agricultural mechanics instructors and agricultural mechanics employees thought laboratory or work experience was an essential individualized instructional technique. Verbal symbols demonstrations, visual symbols, contrived experiences and programmed instruction were considered very important; still pictures, field trips, and motion pictures were important; and television and tape recorders were perceived of little importance as individualized instructional techniques for an agricultural mechanics course of study. The results of the study indicated that agricultural mechanics instructors and company service schools utilized individualized instructional techniques in laboratory work but used mostly conventional classroom methods. Apparently few individualized instructional materials have been developed in still pictures, motion pictures, television and tape recorders for an agricultural mechanics course of study. It was recommended that a study be made of companies producing individualized instructional materials to see if there is a gap between what instructors use and what is available. Since few individualized instructional materials appear to be developed the agricultural mechanics instructor should be prepared to develop his own.

29. KUNZRU, Omkar Nath, Role of the Area Extension Agents in Program Development as Perceived by Selected Extension Personnel. Dissertation, Ph.D., 1971. Library, The Ohio State University, Columbus.

Purpose. To identify and examine the role of the Area Agent (Agricultural Industry) in Extension Program Development as perceived by himself, county agents (chairmen), area supervisors, state specialists, and department chairmen.

Method. All extension personnel working in these positions, who had put in at least one year of service with the Ohio Cooperative Extension Service, were included in the study. The relationship of personal characteristics of the respondents with their perceptions of the role of Area Agents was also studied. Data were collected by a mailed questionnaire.

Findings. The county agent chairmen perceive the need for area agents to involve the county staff to a greater extent in area program planning. State specialists perceive the need to be involved more by area agents in program implementation at the state, area and county levels. Area Agents think that their evaluation tasks should be performed at the county level. All other groups think that they should be performed at the area and state levels.

The youngest age group perceives the advisory tasks of Area Agents as of little importance as compared to what the oldest group perceives. The group with a doctorate degree perceives the area planning tasks of Area Agents more important than does the group with a B.S. degree. The group with a B.S. degree perceives Area Agents as a source of technical knowledge while the group with a Ph.D. degree expects Area Agents to devote more time on the research aspect.

The majority of most important tasks of Area Agents were those which dealt with the implementation of programs. A majority of them were also perceived to be performed well except the tasks related to research and its dissemination among the county staff and the clientele. Conducting workshops and "in-depth" short courses were perceived to be performed well but not important to the role of Area Agents.

30. LAMBERT, George L., Orientation and Initiation of Agricultural Related Occupations in the High School Curriculum. M.S. Report, 1971. Kansas State University, Manhattan.

Purpose. The purpose of the study was to determine what type of agricultural occupations programs were being conducted in Kansas High Schools: exploratory or placement, the six weeks period they were offered, acceptance of the program, and the problems encountered.

Method. A questionnaire was sent to high school vocational agriculture teachers conducting the programs.

Findings. The study compared the programs in schools located in towns with under 2,500 population with those in towns with over 2,500. Thirty-five questionnaires were sent out, about half to each size school. The teachers had an average of 5.3 college hours in agricultural occupations courses. The Bachelor of Science degree was held by 68.9 per cent of the participating teachers. The completed questionnaire included 17.5 per cent of the 165 vocational agriculture departments in Kansas. Approximately 25 per cent of the schools indicated classroom instruction was held the junior year and this was evenly distributed by six weeks periods throughout the year. About 90 per cent of the schools had classroom instruction the senior year, with most schools having it in the first semester. The programs in towns under 2,500 had exploratory type, while towns over 2,500 indicated they had the placement type programs. The agricultural occupations program had been declared a definite success. Among the few problems indicated were visitation time, scheduling and minimum wage. The following recommendations were based on observations made during the period of study and the author's interpretation of data. (1) More college hours be offered in the area of agricultural occupations; (2) the State Department of Vocational Education place more emphasis on agricultural occupations programs; (3) the teachers should be more aware of the problems encountered with visitation time, scheduling and minimum wage; and (4) all Kansas Vo-Ag teachers should be informed of the acceptance and success of the programs.

31. LA MUNYON, Dennis Gail, A Study of the Attitudes Toward Work as Expressed by the Twenty-Eight Male Students of Ensign High School and the Sixty-Four Male Students of Cimarron High School in 1970-71. M.S. Report, 1971. Kansas State University, Manhattan.

Purpose. To survey the attitudes toward work of 28 students who had vocational agriculture and 64 students who didn't.

Method. Data were collected by a questionnaire which contained 49 statements in seven areas of work attitudes. These statements were either positive or negative with a score of 4 points for Strongly Agree, 3 points for Mildly Agree, 2 points for Mildly Disagree, and 1 point for Strongly Disagree. Weighted averages were determined and a sum average was given each area.

Findings. The seven areas of work attitudes were (1) Adequacy of Schools Preparation; (2) Supervision and Superiors; (3) Peers; (4) Choosing a Job; (5) Rights and Responsibilities of Employees; (6) Inner Satisfaction of Working; and (7) Expectation of Future Advancement. The sum average scores for the two groups in the seven areas were nearly the same. Vo-Ag graduates had the highest average score in the following areas: Adequacy of Schools Preparation, Peers, and Choosing a Job. Non Vo-Ag graduates had a higher score in Supervision and Superiors, and Inner Satisfaction of Working. The scores were generally high on all work attitude statements. Students in both groups were rated highest in the following: (1) I want to work for a person who gives me a chance to show my ability; (2) I think everyone who works should take pride in his job and do the best he can; and (3) I want to work with people who take their work seriously enough to do a good job.

Students scored lowest in the following work attitude statements: (1) I don't think I need to admire my boss just because of his position; (2) Most bosses tend to be not quite fair to everyone in their employ; and (3) I think most bosses are just average humans like me but somehow they've had the pull and money.

Results of the study should be considered when incorporating a study of work attitudes into a curriculum.

32. LEIDHEISER, Paul Conrad, An Evaluation of Supervisory Task Importance and Performance in the Ohio Cooperative Extension Service. Dissertation, Ph.D., 1970. Library, The Ohio State University, Columbus.

Purpose. To provide Ohio Cooperative Extension Service administrators additional valid information upon which they could base future decisions regarding supervisory duties and responsibilities; to provide administrators information to use in decision making regarding organizational structure as it affects supervisory positions; to provide assistance to extension supervisors in improving their understanding of their role with increasing responsibilities in an expanding organization; to develop recommendations for supervisor's use in more nearly fulfilling the expectations of the four faculty groups responsible to the supervisor; to develop improved understanding among county and area extension agents, supervisors and administrators of the tasks which supervisors are expected to perform; and to determine the need for development of closer working relations and improved understanding among the groups.

Method. Data were collected from Ohio Cooperative Extension Service employee groups including county and area agents, administrators, and supervisors. The questionnaire listed 170 supervisory tasks which have been identified as being part of the Ohio extension supervisory role. Each respondent rated both importance and performance of each task on a zero to five scale. Descriptive statistics were utilized in analysis and interpretation of the data.

Findings. Importance of supervisory tasks is perceived differently by groups of Ohio Cooperative Extension Service faculty when grouped by position of employment, tenure, age, most advanced degree attained, and subject matter major. Performance of supervisory tasks is perceived differently by groups of faculty when grouped by position of employment, tenure, age, most advanced degree attained, and subject matter major.

Respondents consistently had higher mean scores of importance than of performance. Administrators often ranked importance of tasks higher than other employee groups. No task was rated unimportant by a majority of the respondents. The majority of the respondents rated every task as being performed but at varying levels.

The possibility of role conflict exists as administrators and supervisors do not perceive the individual tasks nor the total job of the supervisor as do the agents supervised. Need exists for improved understanding and recognition of the role of the supervisor so that all faculty groups may perceive the duties, responsibilities, and tasks more nearly the same. Supervisors need to adjust their efforts if they are to fulfill the expectations of faculty supervised. Varying needs and interests of agent groups must be recognized by supervisors as they perform individual tasks with agents.

Tasks like "counsel with agents on program needs and direction" and "develop understanding of policy on salary increases based on merit," which ranked quite high on importance mean scores, received quite low performance mean scores which could suggest need for increased supervisory effort. Tasks like "interact with other supervisors and assistant directors regarding program planning" and "insist on agents reporting results to county extension advisory committees," which ranked quite low with importance mean scores, received high performance mean scores which could mean misguided performance effort.

33. LINHARDT, Richard E., Effects of Selected Instructional Variables on Student Attitude Toward Shop Safety. Thesis, Ph.D., 1971. Library, University of Missouri, Columbia.

Purpose. The purpose of this study was to determine the significance of different methods of teaching safety on the safety attitudes of students.

Method. The population of the study consisted of 36 students who enrolled through the regular registration procedures for Agricultural Engineering 60, Shop Tools and Processes, offered at the University of Missouri, Columbia, during the Winter Semester of 1971.

A three-treatment group, pretest-posttest experimental design was selected to test the variables investigated in the study. The independent variables consisted of three different instructional techniques designed to develop favorable shop safety attitudes among college students. The three methods were: (1) a three-week intensive course on shop safety; (2) a three-week intensive course on shop safety plus a series of films on safety; and (3) a three-week intensive course and a series of safety films plus enforced shop safety. The dependent variables were two forms of an attitude test.

Analysis of covariance was used to test the significance of differences between treatment groups. A related sample t-test was used to test changes in student attitude between the pretest and posttest. The least significant difference test was used to determine significance among treatment means.

Findings. (1) There was a significant difference among the three methods of teaching shop safety; (2) the intensive instructional shop safety unit did not significantly change attitudes toward safety; (3) the intensive instructional shop safety unit in addition to the series of safety films changed attitudes significantly; (4) there was no signficant correlation between mechanical comprehension and safety attitude, intelligence and safety attitude, and mechanical comprehension and safety attitude; and (5) there was no significant correlation between mechanical comprehension and intelligence.

34. LOBERGER, Richard J., Evaluation of Adult Agricultural Education. Thesis, Ph.D., 1971. Library, University of Missouri, Columbia.

Purpose. The purpose of the study was to measure the effectiveness of adult agriculture instruction and how it effects beginning young farmers as to their economic gains, participation in social community activities, awareness and utilization of agricultural service agencies available to them and attitudes toward farming as a way of life.

Method. The study was conducted with 64 beginning young farmers who resided in vocational district three in the state of Wisconsin. The experimental group was comprised of farmers enrolled in an adult agricultural program offered by one of the eight full-time adult agricultural instructors and the control group consisted of farmers, matched to the experimental group, who did not participate in the program.

The treatment consisted of receiving systematic classroom instruction and individual on-the-farm instruction for a period of one year. Pretests were used to measure the variables in the study before the treatment. The same variables were measured at the conclusion of the experiment by use of a posttest. Pretest scores were used as covariates where analysis of covariance was used to measure change in the income and attitude variables. The dependent variables in the study for attitudes and income were the farmers' posttest scores. The Straus Rural Attitude Profile comprised the attitude scales used in the testing instrument.

The number of farmers who participated in community activities as well as the number who were aware of and utilized service agencies were recorded on the pretest and posttest instruments. Significant proportions were used to determine any significant differences before and after the treatment. The eight adult agricultural instructors followed a similar curriculum during the year the treatment was in effect.

Findings. (1) The treatment did not have a significant influence on income or attitude changes between beginning young farmers who received adult agricultural education for a period of one year and those who did not; (2) a significant positive correlation was found between participation in community activities and income; (3) a significant positive correlation was found between income, and awareness and utilization of service agencies; (4) there was no difference in the proportion of farmers in the two groups who participated in community activities before and after the treatment; and (5) a significant difference was found in the proportion of farmers in the two groups who were aware of service agencies before and after the treatment.

35. LORAH, Richard P., Effect of Questions Interspersed in Connected Discourse on New 4-H Leader Attitude and Knowledge. Dissertation, Ph.D., 1971. University of Nebraska, Lincoln.

Purpose. The purpose was to determine the effect of test-like questions interspersed in connected discourse on attitude toward the subject of the discourse and the learning of the information presented.

Method. A 2 x 3 x 2 factorial design was used. Attitude and knowledge scores for 180 new Nebraska 4-H leaders. 15 from each of 12 cells, were analyzed. The cells of the design were on the basis of the following variables: male, female; reading with questions interspersed, reading without questions interspersed, no reading; attitude and knowledge measured as soon as possible after reading, attitude and knowledge measured 30 days after reading.

Group assignment was at random after blocking on the sex variable. No repeated measures were involved.

Treatments and measurements were carried out by telephone and mail, the same person making all contacts. A Thurstone type attitude measure was used. History and objectives of 4-H was the subject of the reading and interspersed questions. Questions in the interspersed questions reading treatment and on the knowledge test were true-false and multiple choice type. Questions used in the interspersed questions reading were not repeated in the knowledge test.

Findings. Analysis of variance and correlations were used in the statistical analysis of the data.

The research hypotheses stated and the results were:

Hypothesis 1 - Knowledge scores for the group reading with questions will be higher than for the group reading without questions.

Differences were in the predicted direction but not large enough to reject the appropriate null hypothesis.

Hypothesis 2 - Knowledge scores for the group reading without questions will be higher than for the no reading group.

Differences were large enough to reject the appropriate null hypothesis and accept this research hypothesis.

Hypothesis 3 - Knowledge scores for the group reading with questions will be higher than for the no reading group.

Differences were large enough to reject the appropriate null hypothesis and accept this research hypothesis.

Hypothesis 4 - Knowledge measured as soon as possible after treatment will be significantly greater than knowledge measured 30 days after treatment.

Differences were not large enough to reject the appropriate null hypothesis and accept this research hypothesis.

Hypothesis 5 - Attitude measured immediately after treatment will not differ significantly from attitude measured 30 days after treatment.

This research hypothesis was not rejected.

Hypothesis 6 - Attitude scores for the group reading with questions will be higher than for the group reading without questions.

This hypothesis was not supported.

Hypothesis 7 - Attitude score for the group reading with questions will be higher than for the no reading group.

This hypothesis was not supported.

Hypothesis 8 - Attitude score for the group reading without questions will be higher than for the no reading group.

This hypothesis was not supported.

Hypothesis 9 - There will be a positive correlation between scores on the attitude and knowledge measures for the three treatment subgroups.

This hypothesis was supported for all three treatment subgroups.

Hypothesis 10 - There will be a positive correlation between scores on the attitude and knowledge measure for the total sample.

The hypothesis was not supported.

Hypothesis 11 - There will be a positive correlation between scores on the attitude and knowledge measures for all treatment, measurement, sex combination subgroups.

The hypothesis was not supported.

Hypothesis 12 - There will be a positive correlation between scores on the attitude and knowledge measures for both male and female sex subgroups.

The hypothesis was not supported.

Additional significant findings of the analysis of variance of the knowledge scores showed: (1) women scored higher than men; (2) an interaction between sex and treatment; and (3) an interaction between sex, treatment, and measurement.

36. LUMPKIN, Oliver Reese, Characteristics of Disadvantaged Rural Youth in Southern Secondary Schools. Dissertation, Ph.D., 1971. Library, The Ohio State University, Columbus.

Purpose. The study was designed to answer this question: How do rural eighth grade students who have been classed by principals and/or guidance counselors as disadvantaged differ from other eighth grade students with respect to factors related to educational handicaps, social alienations, and economic deprivation?

Method. This study was concerned with eighth grade students in the public schools of the First Congressional District of the State of Georgia who have not succeeded in traditional programs of education. Fourteen of the 88 public secondary schools enrolling eighth grade students in the 20 counties of the District were randomly selected. Data were collected through the use of questionnaires administered by principals and guidance counselors in the 14 schools and from school records of 1,509 students.

Findings. Responses from principals and guidance counselors indicated that 25 per cent of the eighth grade students were classed as disadvantaged, 45 per cent of the students were classed as not disadvantaged, and 30 per cent were not classified. When only the students classed by principals and guidance counselors are considered, 36 per cent were classed as disadvantaged and 64 per cent were classed as not disadvantaged. Fifty-two per cent of the students classed as disadvantaged were boys and 48 per cent were girls. Seventy-seven per cent of the disadvantaged students were Black, 22 per cent were Caucasian, and one per cent Indian. Seventy-four per cent of the students classed as disadvantaged were categorized as economically deprived, seven per cent were socially alienated, and 16 per cent were educationally handicapped.

Students classed as disadvantaged were found to be significantly different from students not classified as disadvantaged in characteristics that relate to educational handicaps such as mobility of schooling, grades repeated, reading level, age-grade level, days absent from school, reasons for absences, grades made in sixth and seventh grades, whether talked with counselors about future schooling, discipline problems, academic aspirations, parents' approval of (children's) occupational choices, and parents' hopes for (student's) academic attainment. There was no significant difference in subjects liked least, subjects liked best, whether talked with counselors about future work, occupational aspirations, and medical examinations by physicians.

The two groups of students differed significantly on characteristics that relate to social alienation such as school-community activities and parents' memberships in community organizations. The groups also differed significantly on characteristics that related to economic deprivation such as occupational status of mothers, employment status of fathers, number of parents in home, number of children in the home, parents' ownership of home, employment status of mothers, educational level of mothers, educational level of fathers, and fathers' occupational status. The two groups did not differ in the size of farms and number of persons living at home other than the family.

37. MERWIN, Mary Kaye, A Study of Differences Between Teenages Who Drop Out and Re-Enroll in Wisconsin 4-H Programs. Thesis, M.S., 1971. Library, The University of Wisconsin, Madison.

Purpose. The purpose of this study was to identify and describe differences in selected areas between Wisconsin teenagers who re-enrolled in 4-H programs and teenagers who dropped out.

Method. The study was carried out via a mailed questionnaire. A total of 25 counties were randomly selected for this study. Young people who had completed a minimum of three years of 4-H work and were between the ages of 14 and 16 on January 1, 1970, were considered in the study. Participants were randomly selected from the 25 counties. A total of 92 re-enrollees and 89 dropouts returned completed questionnaires and were included in the study.

The five hypotheses used with this study were: (1) there will be no difference in the organizational make-up of the local 4-H clubs that dropouts belonged to than those clubs that re-enrollees belong to; (2) 4-H dropouts will have a lower conception of the relevancy of the local 4-H program than will re-enrolling 4-H members; (3) re-enrolling 4-H members will show a higher degree of involvement in 4-H leadership than will dropouts; (4) re-enrolling 4-H members will have a higher degree of participation in 4-H activities than will dropouts; and (5) there will be no significant differences in the self-concept scores of re-enrolling 4-H members and dropouts.

Findings. Youth who drop out of 4-H list as their primary reasons for leaving 4-H their feelings of alienation and of out-growing the 4-H program.

The organizational structure of the local 4-H club does play a role in retaining teenage members. The total number of older members in the 4-H club, the number of friends also in 4-H, and the structure of the club were all found to be important.

The 4-H program is not perceived as being relevant by teenagers who have dropped out. Meetings were often perceived by dropouts as having nothing of interest or importance to them. A majority of dropouts were not involved in the club's program planning. Dropouts ranked their impression of the 4-H program much lower than did re-enrollees.

Re-enrollees were more involved in all phases of leadership than were dropouts. Leadership areas such as being a junior leader, officer, and committee chairman were all considered.

Re-enrollees were more involved in both the scope and intensity of 4-H activities than were dropouts.

There were no significant differences between mean self-concept scores of the re-enrollee group and the dropout group.

38. MILLER, James R., A Theoretical Model to Improve the Extension Education Outreach of The Ohio State University; Utilizing Marketing, Behavioral, Business, Management, and Systems Concepts. Dissertation, Ph.D., 1971. Library, The Ohio State University, Columbus.

Purpose. To develop a theoretical organization model to improve the total extension outreach of The Ohio State University.

Method. Background of the problem included a brief history, recent developments through the national report, "A People and A Spirit," and the Ohio report by Battelle Memorial Institute outlining the pressures for change. The model was field tested with a sample of 34 high-level administrators of both Cooperative and General Extension organizations in 22 land grant institutions in the eastern United States. There were 23 responses.

Findings. Two of the major variables considered in building a theoretical model were location of change and the change agent or personnel. Since the Cooperative Extension Service in Ohio is heavily agriculturally oriented and funded and since it is staffed largely with traditional problem solving personnel and capabilities, the model to be tested was limited to encompass the best of the past utilized in the still applicable areas but also sufficiently flexible to allow for whole new concepts to be funded, staffed, and tried. Counties were hypothetically redefined as metro counties, rural counties, and urban counties.

The specific objective of this study required the development of a theoretical organization model to improve the Extension outreach of The Ohio State University which included the following tasks: describe in detail the current status of the total University Extension outreach programs now in effect in the various colleges and regional campuses of The Ohio State University; identify and describe the concepts of Extension, systems analysis concepts, marketing concepts, behavioral concepts, business cost-benefit analysis, and dynamic environment decision making concepts; describe in text and illustrations the theoretical models for each level of Extension--state, area, and county; and define the line organization, the staff organization, and the communication network as it relates to formal and informal organization theory.

Generally the respondents supported the thesis that the theoretical models could provide assistance in a methodology to improve the Extension outreach. It was further reported that the theoretical models could assist in bringing about a merged extension service where non-merged structure now exists.

39. MULVANA, John Bright, Advisory Committees for Agricultural Education in the Public Secondary Schools of Ohio. Dissertation, Ph.D., 1971. Library, The Ohio State University, Columbus.

Purpose. To identify the distinctive features that differentiate effective from ineffective advisory committees used by departments of agricultural education in public secondary schools in Ohio.

Method. State supervisors of agricultural education and annual reports of teachers were used to identify 50 schools with advisory committees. A questionnaire including selected activities of advisory committees was mailed to the teachers using advisory committees. A four-point scale was used to determine the effectiveness score for each committee which permitted the ranking of committees in effectiveness quartiles. Phi coefficients and chi square values were used to identify activities associated with the committees in each of the effectiveness quartiles. A second questionnaire was developed to identify the characteristics relating to the organization and usefulness of advisory committees.

Findings. Six of the 26 activities evaluated by the respondents were moderately related to the effectiveness of advisory committees. These six activities were: securing jobs for graduates; locating training stations for students; studying the needs of the community; obtaining funds from private business for the educational program; explaining the agricultural education program to individuals in the community; and evaluating the educational program.

A majority of the effective committees had the following characteristics: administrators participated in committee activities; ex-officio members included school administrators, supervisors, and school board members; school board members and women were included as regular members; geographical areas in the school district were not represented on the committee; and records were kept including information concerned with minutes of meetings, recommendations, and curricula.

The number of regular members and their occupations were not associated with effectiveness of ineffectiveness. Effective committees appointed members for three year terms; had staggered terms of retirement; involved other individuals besides the teacher in nominating, appointing, and notifying new members; and members served two or more consecutive terms.

Effective committees when compared to ineffective committees met more often, held more special meetings, and elected chairmen, vice-chairmen, and secretaries. The scheduling of meetings or the development of programs did not differentiate effective from ineffective committees. Effective committees used the following in conducting their activities: the chairman presided over the meetings; the agenda was prepared and distributed to members before each meeting; individuals, other than the teacher, sent notices of upcoming meetings; minutes were distributed to members; recommendations were concerned with curriculum,course content, facilities, FFA program, and evaluation; and programs in which the committees were involved were explained to groups in the community.

With ineffective committees, the agricultural teacher usually did much of the work. He presided over the meetings, prepared the agenda, sent out notices of upcoming meetings, and kept the minutes of the meetings. To improve the organization and utilization of advisory committees, the teachers and supervisors suggested the following: organize the committee formally; meet often; conduct in-depth studies of the educational program; participate in community surveys; promote the vocational program in the community; and participate in evaluating the total program.

40. NELSON, Bernard E., A Study of the Effects and Problems of the Roseau County Center School. Thesis, M.A., 1971. Library, University of Minnesota, St. Paul.

Purpose. To determine the effects and problems of the Roseau County Center School after the first year of operation as seen from the students enrolled, the teachers involved, and the administrators in charge.

Method. The writer with the help of the Vocational Center Director and the administrators of the four schools involved prepared a questionnaire and surveyed the students enrolled and the instructors who taught the Center School courses, as well as the administrators in charge of the four schools cooperating in the Center arrangement. The questionnaire was divided into three sections. The first pertained to effects and problems of general nature and was answered by all three groups. The second part pertained to curriculum, equipment and class situations and was answered by the administrators. And the third part pertained to administrative problems and was answered by the administrators. The data from each group were combined and analyzed for major or minor problems.

Findings. Center School classes should be offered in the home school if enrollment is sufficient, instead of busing the students to one central school. When more vocational classes are offered, students drop college bound courses, physical education or study hall in order to enroll in the vocational class. Over 65 per cent of the students enrolled in the Center School courses plan on continuing their education past high school. Efforts must be made to increase parent-teacher contact and communications between home school and Center School teachers. The Center School classes should continually be evaluated and revised to provide training for jobs that are in demand. All efforts must be made by all schools in scheduling, so a minimum of conflicts occur.

41. NELSON, John C., The Feasibility of a Full-Time Adult Agriculture Instructor for the Alden-Conger-Freeborn Area. Thesis, M.A., 1971. Library, University of Minnesota, St. Paul.

Purpose. To answer some of the questions that may be raised concerning a proposed cooperative adult education effort in the Alden-Conger and Freeborn school districts.

Method. The writer submitted an opinionnaire with ten questions of opinion to 106 selected farmers in the two school districts. The questions were designed to find out farmers' interests and opinions concerning the establishment of a cooperative adult farm management program in the Alden-Conger and Freeborn area. The questions were designed to find out: if farmers were interested in help in the areas of farm management and farm records, if farmers in both school districts were in favor of a joint cooperative adult agriculture program, if such a program would slow the out migration from the community, and what the program would cost the two school districts. Data on costs were obtained from present school records. Data concerning number and size of farms were obtained from four neighboring schools that have operated a successful full-time adult agriculture program.

Findings. Of the 106 farmers contacted, 55 per cent of them responded to the opinionnaire. Sixty to 90 per cent of the farmers in both school districts said farmers were interested in the adult farm management program. Also, 75 per cent of the farmers were in favor of a cooperative program. Over 95 per cent of the responding farmers indicated a need for more guidance in keeping farm records. More than three-fourths of the farmers said that a full-time adult agriculture instructor would be a good investment. Seventy per cent of the farmers agreed that more instruction in production agriculture would slow down the loss of farm population. The combined Alden-Conger and Freeborn area contained as many farms as four neighboring schools that have been conducting successful adult agriculture programs. The shared cost after deducting vocational education funds was found to be about $4000 annually for the two school districts. The findings indicated the Alden-Conger and Freeborn school boards should proceed to organize a cooperative adult agriculture program and hire an adult agriculture instructor to serve the two school districts.

42. OEN, Urban Theodore, An Experimental Study Designed to Evaluate the Effectiveness of an Individualized Learning Method of Instruction When Compared to the General Lecture-Discussion Method of Instruction. Thesis, Ph.D., 1970. Library, Michigan State University, East Lansing.

Purpose. The major purposes of this study were: (1) to develop and test the effectiveness of an individualized learning manual on turfgrass sales and service in developing in high school junior and senior vocational agriculture students the competencies deemed necessary for initial employment in the turfgrass industry; (2) to identify the extent to which reading comprehension, interest, attitude, personality, previous knowledge, and instructor's prior turfgrass and general teaching experiences relate to the learning and development of turfgrass competencies; (3) to identify teacher opinions as to the strengths and weaknesses of the individualized learning manual.

Method. Twenty-nine Michigan high schools located in central Michigan were randomly assigned to one of three methods of instruction by a table of random numbers. The methods were: (1) individualized instruction method; (2) lecture-discussion method; and (3) non-instruction (control) method. Teachers using the individualized and lecture-discussion methods of instruction were provided with manuals and accompanying slides, audio visual and curriculum materials, and an explanation of the procedures for the study. The teachers using the non-instruction (control) method were not furnished any teaching materials.

Five antecedent variable tests were administered to the 632 students of the three methods before instruction began. At the conclusion of the project, a comprehensive battery of post-tests were completed by all the students participating in the study.

Findings. There was a significant difference between the averaged mean post-test scores of students of the individualized and lecture-discussion methods of instruction with the non-instruction (control) method, as measured by univariate and multivariate analyses of variance and covariance. The data indicate that the averaged higher mean post-test scores obtained by students of the two instructional methods over the non-instruction (control) method was a result of instruction, not chance.

There was a significant difference between the mean post-test scores of students of the individualized and lecture-discussion methods of instruction as measured by univariate and multivariate analyses of variance and covariance with each covariable considered individually. With all six covariables considered at one time, there was no significant difference as the level of significance was .0576.

Students using the individualized instruction method scored significantly higher than students of the lecture-discussion method on the following subject areas: (a) exploring career opportunities; (b) salesmanship and human relations; (c) turfgrass establishment, care, and maintenance; (d) identification and control of weeds; and (e) seed, turfgrass, and weed specimen identification. There was no significant difference between the post-test scores on the following areas: (a) types and characteristics of turfgrasses; and (b) fertilization and liming of turfgrasses.

The individualized method was significantly better than the lecture-discussion method of instruction in developing in students the ability to locate and interpret information contained in turfgrass references.

The teachers indicated that the individualized learning manual was complete, accurate, and very appropriate in developing in students understandings, knowledges, and skills in turfgrass.

43. OERTEL, Howard Lon, Jr., A Study to Determine the Needs and Desires of Wisconsin Electronic Farm Record Participants. Thesis, M.A., 1970. Library, University of Minnesota, St. Paul.

Purpose. To determine the kinds of record information desired by participants of the Wisconsin Electronic Farm Record Program and to determine the needs and desires these participants have for fieldman services in making use of the record information.

Method. The writer designed a questionnaire which permitted members to select from or add to several lists containing various types of farm record information, optional reports, and fieldman service options. This questionnaire was designed to permit a comparison of the responses of members based on the number of years in the program and the types of field service organizations currently providing them with fieldman services. A questionnaire was sent to each of 100 randomly selected Wisconsin participants of the Wisconsin Electronic Farm Record Program. All participants had completed one or more years in the program and had reenrolled for 1970. The data were compiled and summarized from 79 members who responded within 40 days following mailing of the questionnaire.

Findings. Members now enrolled in the Wisconsin Electronic Farm Record Program indicated a definite desire for additional record information on an optional basis even though additional fees would be required. An annual net worth statement was desired by 82 per cent of the respondents. Members also wanted more analysis factors pertaining to the financial status of their farming operations. Lower priorities were established for informational reports pertaining to detailed employee salary records and detailed family accounting. Members expressed little desire to have records computed on a fiscal year basis starting with any month other than January. The writer recommended that the processing center offer a basic farm record program with optional reports made available at additional costs to the members.

The data collected indicate members are willing to pay for a substantial amount of fieldman help in using record information for tax management purposes and for filing income tax reports. Members show less interest in paying a fieldman to assist them in submitting record data, interpreting processed reports or making management decisions based on the processed reports. The writer feels this indicates that members are not making adequate use of record information for farm management purposes and that much educational effort will be required to correct this situation.

44. OOMENS, Fred W., The Effect of Group Size on Achievement in Agricultural Mechanics. Thesis, Ph.D., 1971. Library, University of Missouri, Columbia.

Purpose. The purpose was to evaluate the relative effects of group size in the laboratory, and of mechanical comprehension level on cognitive achievement, affective learning, and motor skill development. Cognitive learning was measured by a cognitive learning test developed and validated by the investigator. H. H. Remmers' A Scale to Measure Attitude Toward Any Practice, Form A was used to measure affective learning. Motor skills consisted of recording the speed of response of students in connecting two 3-way switches to operate one lamp.

Method. The unit of instruction, Principles of Electrical Wiring, was selected, learning objectives were written, and teaching outlines were developed. Students enrolled in the electrical course at each institution were given a test of mechanical comprehension and assigned to one of two levels, high or low, on the basis of their scores on the Bennett Mechanical Comprehension Test. Students of each level of mechanical comprehension were then randomly assigned to work in either a group of two members or a group of four members. Subjects were assigned to the two group sizes by randomly selecting them from the high and low levels of mechanical comprehension. Cognitive and affective pre-tests and post-tests were administered prior to and at the conclusion of the experiment. The design was the same at each institution. A test of motor skill development was also administered following the completion of the unit.

Findings. (1) The size of the group in which the student worked did not affect the cognitive achievement, attitude, or motor skill development of the students; (2) students of high level of mechanical comprehension did not differ from those of low mechanical comprehension in their performance on the Bennett Mechanical Comprehension Test; (3) the students' level of mechanical comprehension and the size of the group in which he worked in the laboratory did not interact to influence his scores on the cognitive, affective, or motor skill tests; (4) the level of mechanical comprehension, group size, or school did not interact to produce a significant difference in the students' cognitive achievement, affective learning, or motor skill development; (5) there was no correlation between students' mechanical comprehension and motor skill development, or mechanical comprehension and affective post-test learning scores; and (6) there was no correlation found between sutdents' post-test cognitive learning scores and motor skill development.

45. OREN, John W., Jr., An Appraisal by Clientele of the Ohio Cooperative Extension Service. Dissertation, Ph.D., 1970. Library, The Ohio State University, Columbus.

Purpose. To determine the effectiveness of the educational efforts of the Ohio Cooperative Extension Service, as observed and appraised by agricultural producers; off-farm agribusinessmen; home economics clientele; 4-H program advisers, members, and members' parents; and community resource development leaders.

Method. The data were gathered by mail questionnaires from a sample of 1,000 randomly selected clientele which was comprised of 200 clientele from each of the above named groups.

Findings. Extension bulletins and newsletters were the highest rated and the most often used techniques of Extension education. Extension television programs and state Extension meetings were the lowest rated and least used techniques of Extension education.

Agricultural producers felt that Extension most effectively attained the following educational objective: To help people understand how to utilize the knowledge of nutrition, feeding, soil fertility, and other cultural practices to improve the production of agricultural and horticultural products. Off-farm agribusinessmen felt that Extension best attained the following educational objective: To help people understand how to utilize knowledge of controlling diseases, insects, and pests to improve the production of agricultural and horticultural products. The most effectively attained educational objective of Extension's home economics program was to assist individuals and families to achieve improved nutrition status through understanding of nutrition and the relationship of good eating habits to good health. Community Resource Development clientele appraised the following educational objective as being most effectively attained: To assist people to become aware of community problems and the approaches for solving them. The 4-H Program clientele appraised the following educational objective as being the most effectively attained: To have youth acquire knowledge and practical skills in science and technology.

The Cooperative Extension Service was most effectively performing the following critical tasks: displaying enthusiasm in its educational efforts; maintaining its public image; and recognizing the problems and Extension educational needs in the county. The following tasks were least effectively performed by the Cooperative Extension Service: selecting and using interesting methods of teaching its educational programs; and involving the people it serves in its educational program planning. The following program areas were ranked most important in the composite ranking of all clientele: first, 4-H youth development; second, soil and water conservation; third, improving farm income; and fourth, pesticide education and emergency preparedness.

46. OSBURN, D. D. and ANDRE, N. E., The Effect of Job Related Training on Earnings for a Selected Sample of Vocational Graduates. Staff Study, 1971. University of Missouri, Columbia.

Purpose. To determine the relationship between earnings (initial and current) and the degree to which their jobs were related to their training.

Method. Four hundred thirty-two vocational graduates of 1948-49, 1953-54, and 1957-58 were randomly selected from the St. Louis public vocational schools. Multiple regression techniques were used to investigate the net relationship between earnings (initial and current) and job-relatedness when year of graduation and occupation were held constant. Job-relatedness was specified as same, related, and unrelated.

Findings. The regression results showed that graduates who obtained first jobs corresponding to the same category for which they were trained earned approximately $3.35 more per week than those who obtained jobs unrelated to their training. There was no significant difference in earnings of those employed in the job-related categories of related and unrelated.

The results showed that benefits accruing to job-related employment increased over-time. Workers employed in the same and related categories received $8.36 and $9.04 more per week (current earnings) than workers employed in jobs unrelated to their vocational training.

The finding that job-relatedness was an important factor affecting earning--although rather meager for the initial job--substantiates the concern that vocational educators have historically had over the years for studying job-related placement. Somewhat surprising was the increased significance of job-relatedness at later years (current earnings); particularly with speculation that any benefits accruing to vocational training tend to erode over-time. Likewise, the incidence and significance of promotions to jobs unrelated to training did not appear substantial.

47. OSBURN, D. D. and GOISHI, F., Scale Economics Among Area Vocational-Technical Schools. Staff Study, 1970. University of Missouri, Columbia.

Purpose. The purpose of the study was to determine the relationship between size of area vocational-technical schools and expenditures per student among Missouri schools.

Method. Cost data collected were relevant only to the regular day-classes, offered to full-time high school day-students on the secondary level in shared-time-type of area vocational-technical schools having permanent separate plant facilities, exclusive of community colleges, and in operation as of fiscal year 1968-69. All manpower development and training programs and other specialized or short-term programs which were not part of the regular offerings of area vocational-technical schools were not included in the study. Fifteen schools met the above qualifications.

To quantify the net relationship between expenditures per student (dependent variable) and size, expenditures per student was regressed on selected independent variables hypothesized to be correlated with expenditures. Stepwise regression techniques were used for the analyses.

Findings. This investigation found higher student costs among smaller area vocational schools. The "optimum size" (least cost) was found to be in a range of 400 to 500 students--depending on the model specification.

The size of school and expenditure relationships are of importance for planning purposes. The magnitude of the economies associated with size in the study highlights the necessity for appropriate market analysis pertaining to the demand for vocational training in general and various curriculum and program areas in particular. Also, these relationships reflect the wisdom of area vocational training schools rather than the duplication of vocational facilities for vocational training by all school districts.

The authors do not wish to imply limiting vocational training to large schools--60 per cent of the schools had enrollments below the optimum size (400 students) estimated by Model I. However, administrators, policy makers, and tax payers should be aware of the expected costs under current educational technologies associated with alternative size schools so that rational decisions regarding size of area served, school location, curriculum and program area can be formulated.

48. PARKHURST, Carmen R., The Information Sources and Educational Needs of Commercial Poultrymen in Ohio. Dissertation, Ph.D., 1971. Library, The Ohio State University, Columbus.

Purpose. To identify the sources of educational information pertaining to the production and marketing of poultry being utilized by commercial poultrymen in Ohio. Also studied were the relationships between sources of information utilized and selected characteristics of poultrymen and their operations and the views of commercial poultrymen concerning current and future extension program areas and methods.

Method. Data were collected by mail questionnaires and personal interviews. A random sample of 100 turkey growers and 200 egg producers was used for the mail questionnaire. The Knox County and Darke-Mercer County areas of Ohio were used for interview purposes because of a high concentration of poultrymen in these areas. Ten turkey growers and ten egg producers were interviewed to gain more in-depth information than obtained from questionnaires.

Findings. Commercial producers growing over 5,000 turkeys per year accounted for virtually 100 per cent of the turkey production in Ohio. Commercial producers keeping over 5,000 laying hens per year accounted for approximately 80 per cent of egg production in Ohio. Commercial turkey growers and egg producers in Ohio were approximately ten years younger on the average than the 55 years reported as the average of the U. S. farmer.

The poultry serviceman was considered to be the most helpful resource person and had the most contact with both turkey growers and egg producers. Turkey growers rated poultry magazines, state research bulletins, and "Ohio Poultry Pointers" as the most useful sources of educational media. Egg producers rated "Ohio Poultry Pointers," poultry magazines, and extension meetings as the most useful sources of educational media. Egg producers rated the Poultry Extension Program considerably higher than did the turkey growers.

The areas of disease control and production management were selected as being the most desirable for future poultry extension programs by both turkey growers and egg producers. Newsletters, bulletins, and state meetings were the teaching techniques desired by turkey growers for future poultry extension program areas. Newsletters, multi-county area meetings, and bulletins were the teaching techniques desired by egg producers for future poultry extension program areas.

Contract turkey growers and egg producers indicated that for the most part the poultry serviceman was the only helpful resource person. Contract turkey growers and egg producers indicated that extension meetings, bulletins, and other printed materials were not helpful in most instances. Non-contract turkey growers and egg producers found several resource people helpful including the poultry serviceman, extension specialist, feed and drug people, hatchery representatives, and others. Non-contract turkey growers and egg producers found various sources of educational media useful including newsletters, poultry magazines, bulletins, and other media forms.

49. PATRY, James Dean, Farm Machinery Competencies Needed for Employment in Production Agriculture and Farm Machinery Dealerships in Ellsworth County. M.S. Report, 1971. Kansas State University, Manhattan.

Purpose. The purpose of this study was to identify the competencies which were needed for employment in production agriculture and in farm machinery dealerships in Ellsworth County. The information received would be used to design a curriculum which would include competencies considered essential.

Method. Twenty farmers and seven farm machinery dealers served as the population for this study. The questionnaire used consisted of three status questions, six competencies or knowledges of farm machinery and 16 competencies or abilities with farm machinery. The responses were given a weighted value of: Essential--4 points; Very Important--3 points; Important--2 points; Little Importance--1 point; and No Importance--0 points. The sum for each competency was then divided by the number of respondents. An average rating of 2.5 or above was considered as important to include in a curriculum.

Findings. The 20 farmers rated 19 of 22 competencies as important and the farm machinery dealerships rated 21 of 22 as important. The 19 competencies that received a rating of 2.5 or more by both should be included in the curriculum. The relative importance of 16 farm machines was determined in the same way by the farmers and dealers. Eight of the 16 farm machines recieved a rating of 2.5 or more by the farmers, and eight received a rating of 2.5 or more by the dealers. The machines that both thought important were: tractors, combine harvesters, balers, grain drills, plows, and pesticide and insecticide applicators. The following conclusions were reached after reviewing the results of the study: (1) The farmers and machinery dealers were in agreement concerning the competencies needed for employment in production agriculture and farm machinery dealerships; and (2) the farmers and machinery dealers were in agreement as to which farm machines should be included in the high school program of study.

50. PRIEBE, Donald W., Training Institute for Rural Disadvantaged--A Three State Series of Institutes. (USOE Grant) Institute Report, 1970. North Dakota State University, Fargo.

Purpose. The Training Institute for Rural Disadvantaged was held during the week of August 17-21, 1970. Concurrent sessions were held in Willmar, Minnesota, Fargo, North Dakota, and Brookings, South Dakota. There were 119 participants in the sessions which were conducted by one central staff.

The Institute was conducted primarily to better prepare professional workers in Vocational Education to meet the needs of rural disadvantaged through secondary, post-secondary, and adult vocational programs in the states concerned. The intermediate target, or institute participants, consisted of professional workers in the field of Vocational Education, including administrators, counselors, and vocational teachers in rural areas. Participants could attend the Institute in their own state or another state if they wished.

Method. Papers were presented by the institute staff as the initial effort of each half-day session. Participants then worked in small group sessions to formulate suggestions for dealing with the problems involved in working with the disadvantaged. Participants were encouraged to develop plans for implementation of local programs to better serve the disadvantaged.

Findings. A participant evaluation was conducted and summarized. An interim evaluation report was prepared by an evaluation committee. A follow-up study being conducted has revealed a number of local projects conducted as a result of the institute.

51. RAPP, Gene Edward, Perceptions of the Role of an Agricultural Technician. Dissertation, Ph.D., 1971. Library, The Ohio State University, Columbus.

Purpose. To compare the role of the agricultural technician as perceived by leaders in agricultural technology to that perceived by persons in other groups involved with agricultural technology, namely, students, teachers, counselors, and employers.

Method. Data were obtained primarily by using the semantic differential technique. An excessive number of adjectives and concepts related to the role of the agricultural technician were reduced by selective choice following a series of pilot tests. The resulting semantic differential questionnaire was then given to teachers, students, employers and counselor-administrators in a number of community college districts in Ohio. The utility of the instrument was assessed by factor analysis. Final data were obtained from 34 leaders of agricultural technology in 20 states in the United States; from 118 agriculture teachers, 208 counselors, and 400 students in community colleges where agricultural technology is taught in California; and from 64 employers of agricultural technology students. Twenty concepts were studied. Individuals described each concept by responding to seven bipolar adjectives: high prestige-low prestige; goal directing-aimless; decisions made-no decisions made; practical-theoretical; valuable-worthless; manly-feminine; essential-unessential.

Findings. Some common characteristics of the leaders, teachers, counselors, and employers were that they were married men, presently city dwellers, likely to be 40 to 50 years of age and to have a Bachelor's degree. Nearly all of the leaders, teachers, and counselors had some graduate study. The average leader's parents probably had not graduated from high school; his father very likely was a farmer. The typical teacher's father was likely to have been a farmer. The average counselor probably resided in a large city. Compared to the other groups, the employers were decidedly less nomadic. The typical student was 21 years of age, not likely to have migrated from his high school area of living, and a man whose parents had more formal education than the other groups.

The analysis of the five groups of people revealed significant differences for 17 of the 20 concepts studied. Significant differences were found for the concepts of agricultural technology instructor, manual skills, physician, technical agriculture, associate degree, supervisor, applied theory, management skills, vocational agriculture, general education, work experience, social science and humanities, agricultural technician, craftsman, communications skills, mathematics and science, and manager. Conclusions relative to these differences were: leaders differed most with students and agreed most with teachers and employers; students differed with all groups at a relatively high frequency level, the greatest differences being between students and teachers; and employers had fewer differences in paired group comparisons.

Relationships were established by an analysis of a number of independent variables categorized as age, marital status, income, educational attainment, occupation and social status. Perceptual differences between respondent groups were found on the categories of geographical background and father's occupation and education. Perceptual differences were not found in a comparison of men and women counselors.

52. RATHORE, Omkar Singh, Adoption of Extension Innovations Among Selected Personnel in the Ohio Cooperative Extension Service. Dissertation, Ph.D., 1971. Library, The Ohio State University, Columbus.

Purpose. To evaluate the adoption of extension innovations by the State Extension Specialists and Area Extension

Agents in the Ohio Cooperative Extension Service. A feature of the study was to investigate the relationships of various characteristics of extension personnel with their innovativeness in order to predict innovativeness.

Method. Data were collected from State Extension Specialists and Area Extension Agents through several data collecting instruments. The major variables were: knowledge of extension innovations, attitudes toward extension innovations, age, education field of study, total tenure in the Cooperative Extension Service, tenure in current position, self-perception towards innovations, job satisfaction, number of workshops and conferences attended, and leader behavior dimensions.

Findings. State Extension Specialists and Area Extension Agents could be categorized into five adopter categories based on the adoption of extension innovation. Extension innovations like emphasis upon interdisciplinary program development, team teaching, and use of overhead projectors were adopted by a maximum number of State Extension Specialists and Area Extension Agents. The maximum adoption of these innovations was due to their favorable characteristics such as an effective teaching tool and practicability. Extension innovations like the use of para-professionals, super 8mm film, and synchronized slide and tape presentations were less adopted due to non-availability, lack of training, and non-compatibility of innovations. State Extension Specialists and Area Extension Agents looked to personal sources for ideas about innovations rather than impersonal sources of information.

The independent variables consideration dimension of leader behavior, knowledge scores, job-satisfaction scores, number of workshops attended, field of study, and formal education were not associated with innovativeness scores of the State Extension Specialists and Area Extension Agents. The independent variables self-perception, age, tenure in Cooperative Extension Service, and tenure in current position were associated with innovativeness scores of the State Extension Specialists. Self-perception and favorable attitudes towards extension innovations were associated with innovativeness scores of the Area Extension Agents.

53. RUSSELL, Earl Bell, Development of an Instrument to Measure the Change Orientation of Vocational Teachers. Dissertation, Ph.D., 1971. Library, The Ohio State University, Columbus.

Purpose. To develop and test an instrument to measure the change orientation of vocational teachers in order to identify potential innovators and to identify teachers who are most receptive to change.

Method. The instrument to measure the change orientation of vocational teachers was developed using the Thurstone method of equal-appearing intervals and scored with a modified Likert procedure. Eight attitude subscales were designed to measure specific change orientations of vocational teachers relating to specific goals and functional areas of vocational education. Topics on which the subscales were developed are: reducing the number of under-prepared people entering the labor market; meeting the special needs of disadvantaged students; beginning preparation for employment at an earlier age; cooperative education; individualization of instruction and behavioral objectives; adult education; team teaching and differentiated staffing; and core vocational curricula.

"Known groups" of vocational teachers representing "early adopters" and "laggards" in the 38 states, with 125 in each group, comprised the sample for the study. Usable returns were received from 78 per cent of the "early adopter" group and 69 per cent of the "laggard" group. Data from the two groups were compared in estimating construct and concurrent validity and obtaining reliability assessments. A short form Rokeach Dogmatism Scale, Rotter Internal-External Control Scale, Dye Local-Cosmopolitan Scale, and the McClosky Conservatism Scale were included in the instrument for cross-validation and for assessing personality attributes believed to be closely associated with change orientation. Biographical data were correlated with change orientation scores, and responses to attitude statements were factor analyzed to determine the most efficient items for measuring change orientation.

Findings. Evidence found in this study indicates that the change orientation of vocational teachers is measurable. Early adopters and laggards differed significantly on five of the original vocational education subscales. A general factor scale identified by factor analysis consisting of 21 items was a powerful discriminator between the groups. This group of items constitutes the most efficient and effective instrument to measure change orientation of vocational teachers. Construct validity, in addition to that obtained from predicted group differences on change orientation scores, was provided in that teachers who had high change orientation scores were less dogmatic, less conservative, and more cosmopolitan in their points of view.

Concurrent validity of the instrument was confirmed by the finding that the early adopters had over twice as many unusual or unique features in their instructional programs than did laggards. It was concluded that the instrument could be used to identify change-oriented teachers as a basis for formulating innovation diffusion strategies.

54. SCHILLING, Lambert George, The Organization and Evaluation of the People to People Travel Program for Future Farmers of America. Thesis, M.A., 1971. University of Minnesota, Minneapolis.

Purpose. To evaluate the responses made by participants of the People to People Travel Program for Future Farmers of America to a questionnaire regarding selection of participants, selection of host-leaders, costs, agriculture information, number of farms visited, extent of cultural relations, dissemination of information upon return, goals achieved and recommendations to future participants. The study evaluates the merit, reputation and soundness of the program among its participants.

Method. Tour participants from 1965 to 1971 were surveyed by questionnaire. Lists were secured from past host-leaders, Future Farmers of America, news releases, and the State Department of Education. One hundred twelve participants were surveyed, of which 85 were returned. Data from all returned questionnaires were compiled into 12 tables which enables an evaluation of the program.

Findings. Ninety-one per cent of the tour members felt that the tour met Future Farmer of America objectives. Seventy-five per cent felt that it would make them a greater Agriculture Leader. Eighty-one per cent felt that the Cost of the Tour was reasonable; and every member, except one, would recommend the trip to others. The most favorable opinions were registered for Selection of Host-Leader, the People to People Program, Tour Members Selection, and Meals. The most unfavorable opinions were registered against Number of Farms Visited and the Communist Form of Government.

A total of 15 nations were visited. Switzerland, rated by participants as the most cooperative country in the program, was visited the least. Hungary, the most uncooperative country, was visited the most frequent.

The majority of the tour members felt that the tour improved cultural relations; and yet, there was a strong desire to meet more youth in their age group and visit more farms. Further study is recommended of other international programs for farm youth.

The study resulted in a strong endorsement by the writer to continue the present program and improve upon its few faults.

55. SCHMITT, Henry Erven, A Model for Preparing Secondary Teachers of Agriculture for Minority Populations. Dissertation, Ph.D., 1970. Library, The Ohio State University, Columbus.

Purpose. To design a professional teacher education model in agricultural education that will afford an equitable balance between theory and practice for the teacher who will teach children, youth, and adults who are members of minority groups.

Method. Four sources provided the major data for the study: review of current literature; survey of the 77 institutions in the United States preparing teachers of vocational agriculture; 12 national authorities providing leadership for disadvantaged people; and the investigator's involvement, observations, and activities with minority groups.

Findings. Generally, institutions preparing teachers in agricultural education have not decided to do anything significant in overcoming the educational deprivation of minorities. This is vividly implied in that 75 per cent of the reporting institutions indicated that no separate experiences or activities were offered at the pre-service level for teachers of minority groups; about 50 per cent of the institutions provided no in-service or post-graduate experiences or activities; and over 70 per cent have no research or development projects.

A review of the literature and the investigator's experiences with minority groups indicated that heterogeneity among minority groups exists to the same extent as can be found in other elements of the majority society. Minority children and youth have yearnings, ambitions, untapped potential, worldly interests and family attachments which are characteristic to any socioeconomic stratum of the population. Careful scrutiny of selected teacher preparation programs for minorities advocate an interdisciplinary approach, academic internship programs, and sensitivity training as the basic premises in preparing empathic teachers for minority youth.

The national jury of experts set forth the following reasons for education's failure to seize the necessary leadership in ameliorating the educational deprivation of minorities: lack of educational commitment; program oriented curricula; conservatism; majority culture administration; inadequate financial base; the middle class Judeo Christian ethic; competition from national priorities; insufficient research; and residual psychological prejudices.

The following salient features were proposed as the premises upon which a successful preparation model for preparing secondary teachers of agriculture should be based:

vigorous efforts must be placed on recruiting and selecting teachers from the ranks whom they serve; professional agricultural teacher preparation curricula must provide a wide array of alternatives; teacher preparation institutions in agriculture must provide a continuum of educational experiences from entry to retirement; teacher education in agriculture must prepare the teacher to genuinely utilize parental involvement in developing realistic educational experiences for their children; early involvement with minority children, youth and adults must be an important element in vocational teacher preparation for students enrolled in agricultural education; teacher preparation programs in agriculture must be designed so that the teacher has an excellent chance for success; future vocational teachers in agriculture must become increasingly "person-oriented" and "student-centered;" agricultural teacher preparation must become a cooperative venture between local school districts, state departments of education, industry and community organizations; teacher education institutions in agriculture must establish state, regional and national councils to insure a political power base from which adequate financing can be secured; and either a four-day week or 15 to 20 per cent of the minority teacher's contractual time should be spent cooperatively with the university, local school district, and community in conducting research and/or professional improvement activities.

56. SCHNIEDER, Rollin and FLORELL, Robert, Nebraska Farm Accident Study--A Report on Accidents Occurring to Farm Families and Hired Farm Labor in 1970. Staff Study, 1971. University of Nebraska, Lincoln.

Purpose. The study was designed to collect data on work exposure to accidents and also information on frequency and characteristics of farm accidents and other accidents to farm people.

Method. Home Extension Club interviewers collected accident data from a random stratified sample of 1,764 farms where 6,989 family members lived. This was done during the calendar year 1970. The computer was used to tabulate the data obtained.

Two hundred fifty-three farm work accidents occurred of a total of 454 accidents reported. Thus, 55.7 per cent of the accidents were farm work accidents.

Findings. Information obtained in this study justified the following conclusions: (1) men have more farm work accidents than women; (2) beef farms have the highest farm accident rate and grain farms have the lowest; (3) five to 14 year old males have the highest farm work accident rate. Of the females by age group, the 5-14 year olds have the highest farm work accident rate; (4) the farm work accidents are not evenly distributed through the week. Fewer farm work accidents occur on Sundays; (5) more leisure activities accidents occur on Sundays so the total number of accidents does not vary with the days of the week; (6) males have significantly more slip and fall accidents than females; (7) in order of frequency of occurrence, starting with the most frequent, the following items are involved in accidents: sport equipment, horses, trucks, nails, cars, tractors, cows, wagons, dogs, lawn mowers, elevators, and combines.

Null hypotheses relating to the following areas were not rejected: (1) family member accident rates are the same as hired worker rates; (2) full time farmer accident rates are the same as part time farmer accident rates; (3) size of farm is not a factor in accident rate; (4) males and females do not have different animal accident rates.

This study has shown several areas where safety emphasis could have an effect in reducing accident frequency. There appears to be a large human factor in accidents which could not be isolated in a study of this type.

57. SEEMAN, Marlin L. and DILLON, Roy D., Supervised Occupational Experience Program in Ornamental Horticulture. Pilot Project, 1971. Lincoln Public Schools, Lincoln, Nebraska.

Purpose. To plan and conduct a summer pilot course in ornamental horticulture in the Lincoln, Nebraska, schools for disadvantaged junior age students.

Method. Thirteen junior age students who were not succeeding in the regular school because of an academic, social, ethnic, economic disadvantage, or a combination of these, were nominated by counselors to participate.

The classroom part of the program began Monday, June 7, with nine students selected to participate. A special pre-test was developed to determine student's knowledge of basic horticulture skills and plant material identification. The pre-test was administered on June 8.

The first week was devoted to students learning how to properly conduct themselves during a job interview. Each student role-played and practiced interviewing before going out to interview with a prospective employer. Each student was required to seek employment in at least two different businesses. Two and a half days of the first week were devoted to classroom instruction in preparation for the job interviews.

Six students started to work during the week of June 14, on a full-time basis. The students were required to participate in Tuesday and Thursday afternoon class sessions for which the employers granted released time.

The teacher-coordinator devoted a majority of his time to making on-the-job coordination visits to insure an adequate adjustment to employment by the student, and to work closely with the employer and student in planning student skills to be learned.

Classroom work covered during the last month and a half were directly related activities and field laboratory experiences in (a) greenhouse bedding plant production, (b) ornamental plant and tree care, (c) lawn care and maintenance.

Instructional activities were individualized by the consultant to allow the student to proceed at his own pace. The activities were mediated by the use of audio-tapes, visual aids (slides, prints, magazines, and individual references). Each student was required to complete a performance card and have each skill approved by the cooperating laboratory instructor.

A post-test was given on Friday, August 13, the final day of the organized program.

Findings. The students' post-test mean score showed a 12.2 per cent gain over the pre-test. In addition, of the 86 behavioral objectives included in the 62 continuous progress contracts, 81 behaviors were judged as met by a majority of the participants.

Employer evaluation showed above average was made by the majority of students on the five factors of cooperation, reliability, initiative, work attitudes, and skill progress. Parent evaluations indicated that the opportunity for their son to assume responsibility was most important.

All students who participated enrolled in school for the fall term, an objective of the study. School evaluations show that (1) high school junior-age students, who are defined as academically, ethnically, socially, culturally, or economically disadvantaged, can make satisfactory progress in applying for, participating in, and adjusting to an entry-level employment situation; (2) students in this program were able to achieve generally-related and specifically-related behaviors through the use of individualized classroom and performance oriented instruction. This was evidenced by a gain in knowledge as measured by the post-test and by performances demonstrated; (3) the teacher-coordinator played a highly important and key role in the classroom and in the on-job coordination. His excellent rapport with students, employers, and parents contributed to the identifying and solving of problems early; (4) students require a greater amount of individual attention both in the classroom and on the job than other employees; (5) employers are satisfied with work performance of students in the program, and view the program as a desirable approach to exposing students to the "world of work."

58. SHEPPARD, Nathaniel Alan, Educational-Vocational Decision and Indecision in College Freshmen. Dissertation, Ph.D., 1971. Library, The Ohio State University, Columbus.

Purpose. To compare decided and undecided freshmen entering The Ohio State University on the basis of socio-economic background, vocational interests, work values, attitudes toward the proper time for making an educational-vocational decision, personality characteristics, self-concept, most important goal in attending college, and college academic performance.

Method. The population for the study was all decided and undecided freshmen entering The Ohio State University during the 1969-70 and 1970-71 autumn quarters. For each of the two years the entering freshmen were stratified by decided-undecided status and sex from which random samples of students were selected. Phase I of the study sought the response of students entering in 1970-71 to a questionnaire, the Strong Vocational Interest Blank, the Work Values Inventory, the California Psychological Inventory, and the Tennessee Self-Concept Scale. This phase of the study was designed to investigate certain socio-demographic and psychological variables which were hypothesized as factors influencing whether freshmen enter college decided or undecided relative to an educational-vocational decision. Phase II investigated how well decided and undecided freshmen entering in 1969-70 performed academically during their freshman year. Data analyses included both parametric and non-parametric statistics.

Findings. There are no significant differences in the educational level, income, and type of occupation of parents of decided and undecided freshmen. There is a tendency for a greater percentage of freshmen with urban backgrounds to be undecided and a greater percentage of freshmen with rural or small town backgrounds tend to be decided; however, the two groups did not differ significantly. Decided freshmen participated in high school extra curricular activities to a greater extent than did undecided freshmen. The two groups did not differ in the percentage who worked part-time while attending college. Approximately three-fifths of each group worked part-time during the freshman year.

Decided students' most important goal in attending college is vocationally oriented, whereas undecided students' most important goal is cognitively oriented. Generally, undecided freshmen believe that the proper time for making an educational-vocational decision is during college, especially during the freshman and sophomore years; decided freshmen feel that the proper time for making an educational-vocational decision is during high school.

Decided students' work values show a tendency for these students to be more extrinsically motivated; undecided students' work values tend to be slightly intrinsically motivated. On personality measures decided freshman males tend to be more sociable, self-reliant, matured, and confident in personal and social interactions than undecided freshman males. Decided freshman females tend to be more outgoing, sociable, and have greater social maturity than undecided freshman females. However, undecided freshman females tend to be more alert, versatile, and superior in judgment than decided females. Generally, both decided and undecided freshmen have somewhat of a low self-esteem or negative self-concept. Undecided students tend to function this way to a greater extent than decided freshmen. However, both decided and undecided freshmen have a high level of self-acceptance.

Decided freshman males tend to score high in vocational interests for occupations relating to decision-making and planning work for others. Undecided males score significantly higher than decided males in intellectual and artistic oriented occupations. Decided females score significantly higher than undecided females in the traditionally feminine occupations such as librarian and elementary teacher. Undecided females score high in masculine oriented occupations.

There is very little difference between decided and undecided freshmen on measures of academic achievement during the freshman year.

59. SHINN, Glen Clark, Effects of Course Duration and Practice Time on Arc Welding Performance of Adults in Vocational Agriculture. Thesis, Ph.D., 1971. Library, University of Missouri, Columbia.

Purpose. The primary purpose of this study was to compare the effects of three course durations and three ratios of practice time to classroom instruction time upon the performance of a complex motor task in arc welding performed by young and adult farmers. The subordinate purposes included an investigation of the effects of the weld position and selected teacher variables.

Method. Nine teachers were randomly selected from the population of vocational agriculture teachers in Missouri. The unit of instruction chosen for the study was arc welding. Each teacher was randomly assigned one of three course durations: six, ten, or 20 total hours. Each teacher also was assigned one of three ratios of practice time to classroom instruction time: 25 per cent practice, 50 per cent practice, or 75 per cent practice for each of the three arc welding positions. Each course had an enrollment of ten students. The dependent variables were the post-test performance scores of each subject.

A 3 x 3 x 3 factorial design was employed. Correlation coefficients were used to determine the one-to-one relationships of the variables. Multiple regression analysis using a basic vector format was employed to explore the simultaneous relationships of the variables.

A post-test weld sample for each subject was collected at the end of each treatment. A test coupon was taken from the sample and evaluated using the nick-break test. Instrument validity was established using two experts in the field of arc welding.

Findings. (1) Performance on the three complex arc welding tasks, as measured by the nick-break test, was not altered significantly by the three course durations or by the use of three ratios of practice time; (2) the performance was significantly affected by the three welding tasks; (3) motor skill performance was significantly different between groups of adults when those groups were taught by different teachers; (4) the multiple R^2 revealed that 22 per cent of the variance which affected performance was mainfested through the teacher variable.

60. SILLETTO, Thomas A., Competencies in Tractor Repair and Operation Needed by Iowa Farmers. Thesis, M.S., 1971. Library, Iowa State University, Ames.

Purpose. The purpose of this study was to identify competencies and determine educational implications related to tractor repair, maintenance, and operation.

Method. A preliminary list of 130 competencies in the field of tractor repair, maintenance and operation was developed. Consultants from agricultural machinery dealerships, agricultural engineering, and agricultural education selected the 87 competencies they felt most needed by farmers. Ninety randomly selected vocational agriculture instructors provided lists of farmers enrolled in their adult farmer classes. Each vocational agriculture instructor was asked to identify five farmers he considered to be above average in tractor repair and maintenance ability. These farmers were considered the select group of farmers. Questionnaires asking each farmer to indicate the degree of competence needed and degree of competence possessed in each competency was mailed to 316 select farmers and 605 average farmers. A five point scale (0-4) was used by each farmer to indicate the degree of competence needed and possessed. Responses were received from 58.9 per cent of the select farmers and 33.7 per cent of the average farmers.

Findings. The select and average group of farmers indicated the highest level of competency possessed for understandings in: (1) need for engine warmup before loading; (2) need for constant safe operation of a tractor; (3) need for checking instrument panel gauges; and (4) need for regular servicing of tractors. Most needed competencies as expressed by both groups were: (1) principles of operation of a hydraulic system; (2) need for regular servicing of tractors; (3) need for safety devices on a tractor; (4) principles of operation of an ignition system; (5) need for constant safe operation of a tractor; (6) principles of operation of a deisel engine; (7) principles of operation of a carburetion system; and (8) need for a service and lubrication record for tractors. Abilities most needed by both farmer groups were: (1) perform complete engine overhaul; (2) repair transmission; (3) repair final drive assembly; (4) correctly time an engine; (5) repair power take-off; (6) replace rocker shaft assembly; (7) repair carburetor; (8) clean and replace generator and alternator; (9) replace hydraulic oil pumps; (10) adjust hydraulic valve control linkages; (11) adjust carburetor; and (12) replace cylinder head and gasket.

Significant differences were observed between groups for (1) total value of tractor or engine repair completed in 1969 and 1970; (2) self-rated ability in tractor repair; (3) number of tractors owned over 100 horsepower; (4) experience in mechanical work; and (5) value of personal tool inventory.

61. SKADBURG, Norman D., Relation of Attitudes Toward Agriculture to Employment in Agribusiness. Thesis, M.S., 1971. Library, Iowa State University, Ames.

Purpose. The purpose of this study was to determine the attitudes of agribusiness employers and their employees toward farming and their occupations in agribusiness.

Method. Iowa was divided into five economic areas. The areas were identified as western livestock, north central grain, southern pasture, northeast dairy, and eastern livestock. Governmental and private agencies were contacted to obtain address lists of the following agribusinesses in the state: grain elevators, machinery dealers, feed dealers and manufacturers, fertilizer dealers, and seed corn dealers. The five types of agribusinesses were divided into five groups according to economic area. The table of random numbers was used to select ten businesses from each economic area in all five businesses. A survey instrument was developed that would measure attitudes toward farming and agribusiness employment as a profession, a vocation, and a way of life. Two instruments were mailed to each employer selected for the study and one of his employees.

Findings. Analysis of group mean scores revealed no significant differences in mean attitude toward agriculture as an industry between group mean scores of employers and their employees and among group mean scores of economic areas and types of agribusinesses. No significant differences in attitudinal scores toward farming, off-farm agricultural employment, and farming as a vocation by employment groups, economic areas, or types of agribusinesses. Employers had significantly higher attitudinal mean scores toward farming as a way of life than did their employees. When stratified by economic area and employment groups, the eastern and western livestock area employers were found to have the highest mean scores. All employer group mean scores were higher than their employees' scores by economic area. Feed business employers revealed the highest group mean score with the lowest attitudinal scores being revealed by machinery and fertilizer employees toward farming as a way of life. Group mean scores on attitude toward off-farm agricultural employment as a vocation were not found to be significantly different for employers and their employees. No significant differences were found among economic areas. When stratified by type of business, those employed in the feed business exhibited significantly higher mean scores than other agribusinesses in the study. Those employed in the seed corn business had the lowest attitudinal scores. Workers in eastern area machinery dealers, western area fertilizer businesses, eastern area grain elevators, and southern pasture area machinery dealers had significantly higher mean scores toward off-farm agricultural employment as a vocation. Employees had significantly higher attitudinal scores toward off-farm agricultural employment as a way of life than did their employers. When stratified by economic area, no significant differences were found; however, significant differences were found to exist among mean scores by employment group and type of business. The high mean score for attitude toward off-farm agricultural employment as a way of life was observed for seed corn plan employees with the low score being for feed employers. All employee groups had higher mean scores than did employer groups by type of business.

62. SNAZA, Bernard A., A Study of the Employment Status of Farm Equipment Mechanic Graduates of Area Vocational-Technical Schools in Minnesota. Thesis, M.A., 1971. Library, University of Minnesota, St. Paul.

Purpose. To determine the occupational status of former post-secondary farm equipment mechanic graduates from four area vocational schools in Minnesota, and how well these graduates employed in farm mechanics compare to those without this training as determined by their employer.

Method. The writer prepared one questionnaire which was sent to all post-secondary vocational farm mechanic graduates from four area vocational schools in Minnesota, for the years 1967, 1968, and 1969. Another questionnaire was prepared and sent to employers of graduates who were employed in the field of farm mechanics. Information sought from graduates was in the areas of employment, military service, and the training they received while enrolled at the vocational school. The degree of training graduates possess, and salary information was secured from employers. Much of the data on the graduates is presented as a comparison between those who went into farm mechanics and those who chose another occupation. Employer information was secured on the basis of the employer comparing farm equipment mechanic graduates to individuals without this training.

Findings. Of the 139 post-secondary vocational farm equipment mechanic graduates who responded to the study, 74 went into farm mechanics, 22 in the military, 13 in farming, and the other 30 in many varied occupations. The trade teacher provided the greatest number of job leads for graduates going into farm mechanics, while friends and relatives provided the largest number of job leads to those not going into farm mechanics. Sixty-two per cent of all graduates spent time in the military, with just over half being assigned to jobs relating to their vocational training. More shop and laboratory experiences, and additional equipment to work with were the two ways most graduates felt their vocational training could have been improved. Of the 27 employers of post-secondary vocational farm equipment mechanic graduates who responded to the study, all felt the graduates' vocational training prepared them for their job. A starting wage of 50 cents per hour more would be offered vocational graduates as compared to men not possessing this training.

63. SOOBITSKY, Joel Robert, Perceived Training Needs of Urban Cooperative Extension Agents Working with Disadvantaged Audiences. Dissertation, Ph.D., 1971. Library, The Ohio State University, Columbus.

Purpose. To determine both the perceived training needs and the perceived importance of these needs to Cooperative Extension agents working with urban disadvantaged audiences in the 12 northeastern states. The relationships between agents' previous professional preparation, tenure in the Extension Service, divisional responsibilities, experience with disadvantaged audiences, and perceived educational role and the training needs of professionals were determined also.

Method. Data were collected from urban county extension agents in the 12 northeastern states identified by their respective Extension Directors as working with disadvantaged audiences. The questionnaire listed 127 specific training items to be rated by respondents on importance to job performance and additional training needed. Descriptive statistics were utilized in the analysis and interpretation of the data.

Findings. Collectively, the agents perceive the competency areas of communications and social systems as the most important for job effectiveness; they select communications as the competency area in which most additional training is needed. Urban extension agents working with disadvantaged audiences perceive their role primarily as that of an educator and not as a deliverer of services and/or information.

The agricultural agents were different from 4-H and Home Economic agents in their perception of the importance and training needs of the specific items. Agriculture Home Economic and 4-H agents revealed a high degree of agreement on the importance and training needs of the general areas of training. Agents with less than one year tenure and those with 16 or more years tenure indicated more disagreement when compared to the other tenure categories for the importance of and training needs of the general and specific areas of competency. Agents with social science and production or biological science major fields of education revealed the greatest differences when compared to other fields of education for the importance of and training needs of the general and specific areas of competency.

Agents with 10 or more years experience in working with urban disadvantaged audiences revealed the greatest differences when compared to other previous experience categories for the importance of and training needs of the general and specific areas of competency. There were many differences between what agents perceived as important and additional training needed for the specific items of competency.

64. STEELE, Doris Hosmer, Opinion Leadership in Family Living Among Low Income Homemakers in the Expanded Nutrition Program in Ohio. Dissertation, Ph.D., 1971. Library, The Ohio State University, Columbus.

Purpose. To identify selected personal and social characteristics of those from whom low income homemakers in the Expanded Nutrition Program sought advice and information in family living.

Method. The study was based on data gathered from 131 homemakers in the Expanded Nutrition Program in Cincinnati, Ohio, and 30 opinion leaders identified by the homemakers. A descriptive survey utilizing individual interview techniques was the main procedure used in gathering data. Nutrition aides who had been employed in Hamilton County for at least three months were the interviewers. The data were analyzed to identify opinion leaders through sociometric choice and to identify opinion leaders through a self-designated technique. The major statistical methods used to analyze the data included percentages, frequency distributions, and chi-square values.

Findings. Thirty opinion leaders were named as a source of advice and information by the low income homemakers. Opinion leaders tended to be more monomorphic than polymorphic. A greater percentage of opinion leaders self-designated themselves as opinion leaders than did the homemakers. There was no significant difference between the ages of the opinion leaders and the homemakers. The opinion leaders had attained a higher educational level, attained a higher income, and attained a higher socioeconomic level than the homemaker. Opinion leaders reported greater use of magazines and radio than homemakers. The use of newspapers and television were not significantly different between the homemakers and opinion leaders.

Homemakers sought relatives as a personal source of information more frequently than did the opinion leaders. Neither group used neighbors to any great extent. Opinion leaders sought the professional-technical and managerial-proprietor-official more than the homemakers. Both groups sought the professional-technical person most frequently as a personal source of information. Opinion leaders lived within the neighborhood and also some distance away, but seldom outside the city. There was no significant difference between age or the educational level of the homemakers and their personal sources of information. The professional-technical person was named most often. Over half of the homemakers, regardless of age, educational or income level, reported daily use of the newspaper, radio, or television as a source of homemaking information. Magazines were not a major source of homemaking information.

65. STOLLER, Ronald E., The Identification and Differentiation of Selected Professional Competencies for Agricultural Educators. Dissertation, Ph.D., 1971. University of Nebraska, Lincoln.

Purpose. The purpose was to determine whether a common core of professional competencies for agricultural educators could be identified. The study was also designed to identify and differentiate professional competencies most important for secondary and post-secondary instructors of vocational agriculture and extension agents.

Method. A questionnaire containing 147 professional competencies was developed and tested with the aid of a national jury of experts, pilot interviews, local professors, and a small group of agricultural educators.

The questionnaire was mailed to a randomly selected sample of 120 instructors of secondary vocational agriculture, 53 instructors of post-secondary vocational agriculture, and 120 county extension agents in Kansas and Nebraska. The sample also included 60 college professors and heads of departments in agricultural education and agricultural extension from the United States. A total of 357 questionnaires were mailed, and there were 327 usable questionnaires returned. This was a 91.6 per cent return.

The responses from the college professors were used as a guide when making the analysis of each frequency table for assigning each competency to a group. The null hypothesis was tested to determine if significant differences existed within and between the groups. A theoretical model was developed and served as the framework for the study. Categories within the model were: (1) analysis of the situation; (2) planning the 200 education programs; (3) teaching methods and techniques; (4) evaluation; (5) re-evaluation of local situation; and (6) prerequisite personal characteristics.

Findings. (1) There were 74 professional competencies identified and assigned to the central or common core of competencies essential for all respondent groups studied. These were competencies identified from all categories within the model.

(2) Instructors of secondary vocational agriculture and county extension agents were in agreement that six additional competencies were essential. These included: working with community groups, recognizing ethnic groups, leadership training, and using approved practices with a youth to teach adults.

(3) Instructors of secondary vocational agriculture selected four competencies essential for their group. These included need to work with disadvantaged and handicapped and use of parliamentary procedure.

(4) Instructors of secondary and post-secondary vocational agriculture responded to 21 professional competencies as essential for both groups. Their needs included use of testing, grading, discipline, shop demonstrations, occupational experience programs, classroom problem solving techniques, and knowledge of employment opportunities for their students.

(5) The post-secondary instructors of vocational agriculture selected only two unique professional competencies. They were: use of standardized tests and making photo slide sets for teaching.

(6) County extension agents responded with preference to 16 professional competencies including analysis of the community situation, the history and organization of extension service, relationship with all departments within the university, understanding the power structure, role and function of institutions and agencies in the community, translating research to the people, use of background material for planning groups, work with large groups, conducting field days, maintaining a news and information service and delegating authority to co-workers.

It was evident that the professional competencies for agricultural educators, namely instructors of secondary and post-secondary vocational agriculture and county extension agents, were similar. However, differences in emphasis may be necessary in pre-service and in-service programs to meet the needs of each specific group. The similarities noted in the central core appear to be items that can be included in preparation programs for all groups and the differences noted may be a guide to provide specialized preparation for each individual group.

66. THOMAS, Hollie B., Attitudes of Metropolitan Administrators Toward Applied Biological and Agricultural Occupations Programs. A Research Report, 1971. University of Illinois, Urbana.

Purpose. The primary purpose of the research was to ascertain the attitudes that administrators in the metropolitan area of Chicago had toward the various areas of vocational education, with emphasis on applied biological and agricultural occupations.

Method. An opinionnaire developed by the researchers was mailed to all secondary school administrators in the city of Chicago and 46 of the contiguous suburbs. Of the 120 administrators identified as meeting the selection criteria, 87 (72.5 per cent) completed and returned the opinionnaire.

Frequency counts and analysis of variance were employed to summarize and compare the attitudes held by administrators for the city and suburbs.

Findings. Both positive and negative attitudes were exhibited toward programs in applied biological and agricultural occupations by administrators who responded to the opinionnaire. While some differences in attitude were observed among the attitudes held toward the various vocational education areas, the variance would have easily been estimated to have been greater when the dearth of programs in applied biological and agricultural occupations in the metropolitan area of Chicago were considered. No significant differences were observed between the attitudes of city and suburban administrators.

Conclusions concerning the possibility of implementing programs in the metropolitan areas of Chicago include: (1) schools in the metropolitan area of Chicago can be identified in which the administrative staff are receptive to the development of programs in applied biological and agricultural occupations; (2) administrators in metropolitan areas of Chicago have a positive attitude toward the development of programs in agriculture but appear to have a misconception of the total scope of the area. Thus, the administrators will need to be enlightened by the program developer concerning the nature of these programs; (3) in contrast with other areas of vocational education, administrators do not perceive that enough students would be interested in a program in applied biological and agricultural occupations to merit offering such programs. Thus, it will be essential for the program developer to collect data regarding student interest; (4) occupation preparation in specific areas such as lawn care and maintenance are more acceptable to the administrators in the metropolitan area of Chicago than is the total concept of applied biological and agricultural occupations.

67. THOMAS, Hollie B., Attitudes of Suburban Teachers Toward Applied Biological and Agricultural Occupations Programs. A Research Report, 1971. University of Illinois, Urbana.

Purpose. The principal purpose of the research was to determine the attitudes of teachers in the suburban area of Chicago toward vocational education with emphasis on the area of applied biological and agricultural occupations. In addition, for the area of applied biological and agricultural occupations, the teachers' conception of their competence to teach, willingness to become competent, and willingness to teach were sought.

Method. In order to obtain a random sample of the teachers in the population, schools in the 46 suburbs contiguous to the city of Chicago were randomly ordered. The schools thus ordered were contacted in order in which they appeared on the random list. Five schools were contacted in order to obtain the cooperation of four desired for the study. The final sample included all teachers in the four schools.

Data were collected by employing an opinionnaire designed by the researchers to obtain attitudes of the teachers toward vocational education with emphasis on applied biological and agricultural occupations. The school officials in each school distributed and collected the opinionnaires.

Frequency counts and percentages were calculated to summarize the data.

Findings. The general response made by teachers toward programs in applied biological and agricultural occupations was favorable. Exemplary of this is that four-fifths of the respondents indicated that courses in applied biological and agricultural occupations could be offered in their school, while nearly one-third indicated that courses in agriculturally related occupations would make a great contribution to the overall high school program.

Conclusions from the research include: (1) teachers in the suburban area of Chicago had a favorable attitude toward the offering of programs in applied biological and agricultural occupations in their schools; (2) many teachers have the attitude that not enough students have an interest in applied biological and agricultural occupations to merit offering programs, thus, the teachers need to be made aware of the students' interests; (3) a significant number of teachers are competent in the various areas of applied biological and agricultural occupations or are willing to become competent in this area. Hence, it appeared that teachers could be shifted within the school system to implement programs in agriculture; (4) teachers appeared to feel that the areas of agricultural related to the environment; e.g., soil conservation and parks and forestry management, would be the most desirable to offer in their school.

68. THOMAS, Hollie B., Employment Opportunities in Applied Biological and Agricultural Occupations in the Metropolitan Area of Chicago. A Research Report, 1971. University of Illinois, Urbana.

Purpose. This study was designed to determine the manpower needs in the various areas of applied biological and agricultural occupations in the metropolitan area of Chicago. This was to assist in establishing the feasibility of developing such programs in this geographic area.

Method. The population was delimited to include the agricultural businesses in the city of Chicago and 46 of the contiguous suburbs. A stratified random sample was obtained such that each area was represented by 20 per cent of those identified except in those cases where 20 per cent was not equal to or greater than 20.

Data, collected by employing an instrument designed by the researchers, were obtained by a mailed questionnaire. Analysis included the summation of job opportunities based on the proportion of questionnaires to the total population.

Findings. Job vacancies were identified in each of the nine areas identified to study. Occupational areas in which the greater number of vacancies existed were animal care, recreation, landscaping, and nursery work. The areas of veterinary assistance, small gas engine repair, floriculture, aboriculture, and golf course work did not appear promising areas for employment at the time of the study. It was noted here that the study areas included a city and near city area rather than the suburban area where golf courses and aborist are usually located.

The conclusion concerning the feasibility of establishing programs was that each community desiring to establish a program should make an interview survey of its own agricultural businesses to ascertain both the job vacancies and the opportunities for placement experience that exist. In general it appeared that the areas of animal care, recreation, landscaping, and nursery work provides the most opportunity.

69. THOMAS, Hollie B., Vocational Interest of Students in the Suburban Area of Chicago. A Research Report, 1971. University of Illinois, Urbana.

Purpose. The major purpose of the research was to determine the interest students in the suburban area of Chicago had in the various areas of vocational education in order to ascertain their relative interest in the areas of applied biological and agricultural occupations with other vocational areas.

Method. The population included all ninth grade students in the 46 suburbs contiguous to the city of Chicago. A random sample was obtained by randomly ordering the schools located in the population area and contacting the schools in order of random assignment until four schools were identified who were willing and able to cooperate in the study. A sample of approximately 60 students were obtained from each school in the sample.

Data were collected during in-school sessions, thus assuring responses from all students selected. A Career Interest Inventory (CII) developed by the researchers was employed to measure the interest in five areas of vocational education. A total of 58 sub-scales were included on the 283 item instrument, each measuring a specific sub-area. A four point scale ranging from strongly like to strongly dislike was provided for response. Measures of internal consistency indicated that most scales were highly reliable. Most exceed an r of .70.

Percentages of students that had a mean item score greater than 3.0 (like) or higher, 2.0 through 3.0, and less than 2.0 (dislike) were computed for each sub-scale.

Findings. In the area of agriculture, students expressed the greatest interest in the area of animal science, followed by agricultural business management, agricultural mechanics, plant sciences, agricultural resources, and forestry. More than 10 per cent of the students expressed interest in each of the above areas; thus, it appeared that a school as large as those in the metropolitan areas of Chicago would be able to identify students with interest in these areas. When compared to other areas of vocational education, it was observed that percentages of students interested in applied biological and agricultural occupations compared favorably with health occupations and industrial oriented occupations. A greater percentage of students expressed interest in business and office occupations and in personal and public service occupations.

70. THOMPSON, John F., An Analysis of Student Characteristics--The Third Year. Staff Study, 1971. University of Wisconsin, Madison.

Purpose. The purpose of this study was to analyze selected characteristics of eleventh and twelfth grade students who were enrolled in the vocational agriculture pilot programs. These were related in a formative framework to aid in the process of developing and improving each program.

Method. A questionnaire was administered to all juniors and seniors enrolled in the program. Data were gathered from 312 students in 12 programs. In addition to demographic variables, data were gathered concerning occupational experience, school success, extra-curricular activities, why enrolled, student objectives, career plans, occupational aspirations and expectations, and vocational maturity.

Findings. (1) The pilot programs have grown in number and size during the first three years of operation; (2) two out of three junior-seniors are seniors; (3) girls continue to be attracted to the program. Girls in the total enrollment has increased from 4 to 11 per cent; (4) non-farm students comprise 72 per cent of the total enrollment. This figure tended to increase slightly over the three years; (5) the majority of the students have only recently become interested in vocational agriculture. Fifty-six per cent of the students have had one or less years of vocational agriculture with 50 per cent taking vocational agriculture for the first time; (6) farm students make higher school grades in the pilot program courses than do non-farm students. We don't know if this is a natural advantage that farm students have due to the content or if the non-farm students attracted to the pilot programs are average or below in scholastic ability; (7) the typical student reports average grades in academic courses and average grades in vocational agriculture. The above average student in vocational agriculture is as likely to be average as above average in academic courses; (8) occupational experience has shifted from being quite diverse. Two being (a) very intensive for one in four students or (b) nearly zero for the others; (9) non-farm students are reporting much more extensive occupational experience in agriculture than they did three years ago. This is likely due to the exposure that the students are getting during grades 9, 10, and 11 in some of the programs; (10) one in three students participate in both school and community organizations while one in two students confine their participation to school organizations; (11) farm youth participate in extra-curricular activities more intensively than do non-farm students; (12) six in ten students enrolled in the pilot programs for exploratory reasons. This 6-4 exploratory/definite ratio has held constant for all three years of the program; (13) there is a slight tendency for those enrollees who had occupational experience prior to the pilot program to enroll for definite career reasons. This tendency is less now than it was three years ago; (14) residence did not effect the reason for enrolling; (15) once enrolled, two in three students express exploratory reasons as their personal objectives for the pilot program. This has been true all three years. More farm students are now electing the course for exploratory reasons than they were the first year of operation. Also the number of non-farm students electing the course to help them qualify for an area of work already chosen has increased; (16) there is some tendency for those who have had occupation experience prior to the pilot program to have personal objectives for the course that "help them qualify for an area of work already chosen." This tendency has been there all three years. However, the majority of both the experienced group and the non-experienced group enroll in the pilot programs for exploratory reasons; (17) students at the age and grade level studied were aware of the need to decide on an occupation. Their deisre to enroll in the pilot program to explore an occupational area was the result of that awareness, and thus the pilot programs are serving student needs; (18) throughout the three year period approximately 50 per cent of the students have indicated a preference for agricultural jobs; (19) residence had a noticeable effect on career plans. Farm students tend to select production agriculture or non-agricultural jobs. Non-farm students prefer conservation and resource jobs in agriculture and non-agricultural occupations; (20) the longer a student has studied vocational agriculture, the more likely he is to select an agricultural career. One in three students taking agriculture for the first time indicated a career that could be classified as agricultural. However, two in three of those students who had studied agriculture for three years indicated a preference for the agricultural careers; (21) when asked to consider a list of three occupations that they would consider entering, only 24 per cent of the students identified a consistent set. Consistency was defined in terms of the jobs requiring the same general educational level, the same type of work, or the same pay level; (22) student career aspirations were higher than their expectations. One student in two aspired to an agricultural job but one in three expected to attain them. Approximately two-thirds of the students expect to attain the same level of socio-economic job that they aspire to. The aspiration and expectation level of farm students is closer than is the non-farm group; (23) half of these juniors and seniors in this study had limited their career choice to a cluster of occupations; (24) over the three year period the students attracted to the pilot program have shown the same general level of vocational maturity. Farm students showed higher vocational maturity scores than did their non-farm counterparts. The students, then, that are attracted to these special junior-senior year courses represent a wide spectrum of the phases and stages of the vocational development process.

71. THOMPSON, John F., Pilot Programs in Agriculture for the Disadvantaged Student--A Summary of Research Findings. Staff Study, 1971. University of Wisconsin, Madison.

Purpose. The purpose of this study was to analyze selected characteristics of students who enrolled in Agricultural Pilot Programs for the Disadvantaged Students.

Method. A questionnaire was administered to all students enrolled in the seven programs that were designed to serve the disadvantaged student in agriculture. Data were collected on 90 students. Using percentages, data are reported on such variables as grade, age, sex, residence, occupational experience, extra-curricular activities, why enrolled, student objectives, career plans, occupational aspirations and expectations, and vocational maturity.

Findings. (1) The seven disadvantaged programs served 90 students with 51 per cent of the enrollees being seniors; (2) 12 of the 90 students (13 per cent) were female; (3) one in three students resided on farms; (4) the majority of the disadvantaged students were new to vocational agriculture programs; (5) 38 per cent had had no previous occupational experience; (6) nearly all of the students who possessed previous occupational experience were farm students; (7) the students of the disadvantaged programs showed very little participation in extra-curricular activities. Farm students showed more extra-curricular activity than did non-farm students; (8) one student in four was "assigned" or "advised" to take the course; (9) the disadvantaged students are in the process of exploring career possibilities rather than in the process of implementing a definite career area; (10) those disadvantaged students with occupational experience prior to the vocational agricultural pilot program were far more likely to enroll for definite career implementation than were those who had no occupational experience; (11) the students' personal objectives for the course were also classified as career exploration. The students' responses seemed to indicate that the course, in their minds, might make it a little easier for them to get employment after high school; (12) both farm and non-farm students indicated a preference for non-agricultural occupations. A substantial majority of the students had not narrowed their occupational choices to a cluster of similar occupations; (13) most of the students aspired to and expected to obtain jobs at the skilled level or below; (14) 38 per cent of the students had career plans that had been refined to a cluster of related occupations; (15) on an eight point scale, the mean vocational maturity score was 2.71. This was judged to be low. Farm students had a higher vocational maturity score (mean of 2.94) than did the non-farm student (2.57); (16) no consistent pattern was evidenced when vocational maturity scores were related to grade in school. This reflects the wide range of students that were present in the disadvantaged programs.

72. TINDALL, Lloyd Wilbur, Receptivity of Mexican-American and Anglo Rural Disadvantaged to Educational Programs. Dissertation, Ph.D., 1971. Library, Michigan State University, East Lansing.

Purpose. The primary purpose of this study was to determine the willingness of the rural disadvantaged to participate in educational programs.

Method. A questionnaire was designed to measure the willingness of the rural disadvantaged to participate in educational programs. The questionnaire was administered by personal interview to 68 Anglo and 57 Mexican-American rural disadvantaged. The sample was stratified according to income. Half of each ethnic group were receiving welfare, and half were not receiving welfare.

An attempt was made to identify barriers which might prevent the rural disadvantaged from participating in educational classes. Possible barriers included occupational considerations; personal, educational, and social considerations; self-perceptions; and environmental considerations of the training class. The effects of personal and family factors upon the willingness to participate in educational programs were also studied.

Comparisons were made between ethnic and welfare groups, including the use of the multivariate analysis of variance statistical technique.

Findings. The Mexican-Americans were more willing to participate in educational classes than Anglos. However, both Mexican-American and Anglo rural disadvantaged had a desire to participate in educational programs to get a job or a better job.

Occupational considerations, relating to prospective employment of the disadvantaged, affect their willingness to participate in educational training classes. The rural disadvantaged were willing to participate in educational classes that pertained to their personal, educational, and social welfare. The rural disadvantaged tend to perceive themselves favorably in regard to their ability to be hired for a job, run their own business, or be the leader of others. Certain environmental considerations relating to the way classes are taught will apparently affect the willingness of the rural disadvantaged to attend educational training classes.

The age, residence, miles to high school, educational achievement, number of children, income, size of town for shopping, and time lived in Michigan do not affect the willingness of the rural disadvantaged to participate in educational programs. The rural disadvantaged that lived ten miles or less from a community college or university were more willing to attend classes than those living over ten miles.

73. TOWNSEND, Joe D., Use of Speakers and Resource Persons in Young and Adult Classes in Iowa and Texas. Thesis, M.S., 1971. Library, Iowa State University, Ames.

Purpose. The purpose of the study was to investigate the use of speakers and resource personnel in young and adult farmer classes. Specific objectives were to determine: (1) the extent instructors of vocational agriculture are using personnel in young and adult farmer classes; (2) the types (professions) of resource personnel used in the young farmer classes; (3) methods used by resource personnel in young and adult farmer classes; and (4) factors which influence the effectiveness of the use of resource personnel in young and adult farmer classes.

Method. A sample of 100 Iowa and 100 Texas vocational agriculture instructors were selected randomly for inclusion in the study. A schedule was developed to obtain evaluations by the instructors of the factors which influence the effectiveness of the use of resource personnel in young and adult farmer classes. Responses were received from 95 Iowa instructors and 87 Texas instructors.

Findings. Ninety-five per cent of the Iowa and 87 per cent of the Texas instructors used resource personnel in their young and adult farmer classes. Agricultural industry personnel constituted 51.5 per cent of the resource personnel used by Iowa instructors, whereas 39.9 per cent of the resource personnel used by the Texas instructors were agricultural. Approximately 33 per cent of the resource personnel used by Texas instructors were university personnel. Farmers represented 18.4 per cent of the resource people used by Iowa teachers and 6.3 per cent of the Texas teachers. Teaching methods used most with resource personnel in Iowa were speakers (34.6 per cent) and panels (31.8 per cent). Speakers (70.5 per cent) and demonstrations (13.3 per cent) were used most by Texas teachers. A significant positive correlation for the Iowa instructors was observed between adult farmer enrollment and the number of resource personnel used. A significant negative correlation was found between total years teaching and number of resource personnel used. Positive coefficients of correlation for the Texas instructors were observed between number of resource personnel used and (1) young farmer enrollment, (2) total years of teaching, (3) years of teaching in present school district; adult farmer enrollment and age of instructor; and number of resource personnel used and age of instructor.

74. URBANIC, Charles Edward, Effectiveness of the Use of a Student Reference in Teaching Ornamental Horticulture to High School Students. Dissertation, Ph.D., 1971. Library, The Ohio State University, Columbus.

Purpose. To evaluate the effectiveness of a student reference in teaching ornamental horticulture to high school students. Another purpose of the study was to determine the attitudes toward student references of teachers using the reference, teachers not using the reference, and students using the reference.

Method. The chapter on "Plant Growth" of a student reference developed by the author, The Nursery Worker, was tested using 16 intact classes of vocational horticulture students in Ohio. A posttest-only control group design was used with the experimental group teachers using the student reference and the control group teachers not using and not being aware of the student reference. An effort was made to determine if certain characteristics of teachers such as degree holding status, number of years teaching experience, amount of time required for lesson preparation, and the number of professional education courses taken were related to student success in learning as measured by scores on objective tests. An attempt was also made to determine if student characteristics such as completion of Vocational Agriculture I and/or II, previous horticulture related employment, present horticulture related employment, and number of periods spent per day in horticulture class were related to student success in learning, both with and without the use of a student reference. The attitude scales were developed and used to determine teacher and student attitudes toward student references in general, behavioral objectives, student exercises, subject matter content and style of writing and pictures and illustrations in the student reference.

Findings. There was no significant difference in test scores between those students using the reference and those students not using the reference.

Investigation of the relationship between variables indicated that a negative relationship existed between the number of professional education courses taken by teachers and student scores on objective tests. Although they were not statistically related, the independent variables "degree holding status" and "number of years teaching experience" were also negatively related to student test scores. The other significant relationship indicated was that a positive relationship existed between the number of periods a student spent per day in a horticulture class and student success in learning. There was also a strong, but not significant, relationship between the number of periods spent per day in horticulture class and the periods spent teaching the Plant Growth unit.

The use of a student reference did not significantly reduce the class preparation time for teachers, nor did it reduce the number of periods needed to teach the unit. Positive, but not significant, relationships existed between students completing either Vocational Agriculture I or II and students being either previously or presently employed in horticulture with student scores on tests.

Both groups of teachers were favorable in their attitudes toward the need for student references and acceptance of the furnished behavioral objectives. Students tended to be undecided to slightly favorable toward the pictures and illustrations used in the reference. The teachers were more favorable toward pictures and illustrations than students. Teachers tended to be more impressed with the subject matter content and style of writing used in the reference than the students. Students were slightly unfavorable toward the student exercises in the reference while teachers had a favorable attitude.

75. VAN BERKUM, Clifford S., Factors Related to Occupations of Male Graduates of the Swea City Community High School From 1951-1965. Thesis, M.S., 1971. Iowa State University, Ames.

Purpose. The purpose of this study was to determine factors related to the occupations of male graduates who had been graduated from the Swea City Community High School during the time period of 1951 through and including 1965. Occupational status of these graduates was also measured and evaluated.

Method. Lists of all Swea City Community High School male graduates for the years 1951 through and including 1965 was developed. Class secretaries furnished the current addresses of the graduates by year of graduation. A questionnaire was developed by the investigator to obtain information relative to each graduates' present occupation. Additional information concerning the graduates' high school educational program was obtained from the graduates' permanent files maintained in the administrative offices of the school. Questionnaires were mailed to a total of 236 graduates. Responses were received from 229 (96.6 per cent) graduates.

Findings. It was observed that 66.5 per cent of the graduates were engaged in non-agricultural occupations and 33.5 per cent were employed in agricultural occupations. Of those graduates employed in agricultural occupations, 15.4 per cent were employed in agribusiness occupations and 18.1 per cent were employed as farm laborers or farm operators. A total of 3.9 per cent of the graduates were unemployed.

Census classification of the graduates revealed that 25.1 per cent had entered professional occupations, 19.8 per cent were employed as craftsmen, 18.1 per cent were engaged in farming, 7.5 per cent were in the military, 5.7 per cent were employed in clerical occupations, 4.4 per cent were engaged in sales work, 1.8 per cent were employed in service occupations, and .9 per cent were employed as laborers.

A higher percentage of those respondents who graduated during the time periods 1956 to 1960 and 1961 to 1965 had entered non-agricultural occupations than had those who graduated during the time period 1951 to 1955. The reverse trend was observed, however, for those graduates who had entered farming. A higher percentage of those graduates who had no more than one or two brothers tended to be employed in professional, managerial, and farming occupations than did those graduates with three or more brothers. More of the graduates who had originated from large families tended to enter non-agricultural occupations, craftsmen, sales, and service occupations. Graduates who had ranked in the top one-half of their respective graduating classes had: (1) migrated from the Swea City community; (2) entered non-agricultural occupations; (3) enrolled in post high school educational programs; (4) participated more extensively in high school extracurricular activities; and (5) entered more prestigious occupations more extensively than had the graduates in the lower one-half of their respective graduating classes.

76. VITERNA, Larry L., Opinions of School Administrators Concerning Selected Aspects of the Program of Vocational Agriculture in Nebraska. Thesis, M.S., 1971. Library, University of Nebraska, Lincoln.

Purpose. The objectives of the study were to obtain opinions of school administrators and to present them in a form useful to those involved in program development in vocational agricultural education.

Method. This study was designed as a survey of opinions of superintendents and principals in the 124 Nebraska public schools which offered vocational agriculture as a part of their curriculum during the 1970-71 school year. Questionnaires were sent to 115 principals and 121 superintendents in 124 Nebraska public schools.

A data collection instrument was prepared and the data were collected by a mail survey. Of the total sample, a response was obtained from 122 of 124 schools, or 98.3 per cent, with 93 (76.8 per cent) superintendents responding and 91 (79.1 per cent) principals. Data were recorded according to class size of schools. Class A schools had 348 or more boys enrolled in grades 9-12, Class B schools had 129-332 boys enrolled, Class C schools had 57-128 boys enrolled, and Class D schools had 6-57 boys enrolled.

Findings. From 50 to 70 per cent of the administrators responding indicated they had taken no college courses in vocational education.

Ninety to 100 per cent of the administrators indicated preparing youth (boys) for useful employment in farming or related agricultural occupations was a major purpose of vocational agriculture. A high percentage of administrators also indicated that to provide youth with a general knowledge of agriculture was a major purpose of the program.

Eighty-six per cent of the superintendents in Class A schools indicated girls should be enrolled in vocational agriculture, but less than one-half of the superintendents in other size schools favored girls in the program. Young and adult farmer education received higher endorsement by smaller schools than by larger schools.

About 70 per cent of the administrators indicated a need for a citizen advisory committee to help plan the local program of vocational agriculture.

Administrators ranked supervised experience programs, production agriculture classes, and off-farm agriculture classes as needing most emphasis in the vocational agriculture program. The Future Farmers of America and adult classes were ranked lower. Contests were indicated as needing the least amount of emphasis.

The majority of administrators in all sizes of schools indicated vocational agriculture provides the necessary occupational preparation for youth who enter farming. Less than 45 per cent indicated vocational agriculture provides the necessary occupational preparation for youth who enter off-farm agricultural occupations.

A majority of administrators indicated that students in the FFA are not segregated from other students in the school because of the Future Farmers of America activities. Eighty-one to 90 per cent of the administrators indicated vocational agriculture students were well respected citizens.

Areas where administrators indicated teachers of vocational agriculture seemed to be most inadequately prepared are English or the use of communication skills in reading and writing, discipline of students, methods of teaching, supervision of experience programs, and housekeeping of classroom and the agricultural mechanics shop.

Both superintendents and principals ranked day-school class preparation as the most important factor for determining work load of the vocational agriculture teacher. Fairs, shows, and contests were ranked low.

From 45 to 53 per cent of the administrators indicated that the summer programs of vocational agriculture did not justify hiring teachers on a 12 month basis. Over 40 administrators indicated 10 months of employment would be a sufficient length of time.

A higher percentage of administrators in the smaller schools indicated vocational agriculture in their school could be justified to the taxpayer than did the administrators of the larger schools.

Slightly over 50 per cent of the administrators indicated their school districts would continue to support vocational agriculture even if Federal and/or State funds were no longer available.

Superintendents indicated that the number of day-school students enrolled in vocational agriculture was the most important factor for determining when to employ additional vocational agriculture teachers.

A majority of administrators indicated adult classes in vocational agriculture should be centered around farm management and farm business analysis.

Most administrators indicated being a teaching specialist was somewhat more important than being an agricultural specialist.

Seventy-five to 80 per cent of the administrators favored a vocational agriculture program in the secondary school.

77. WARD, Reynold Walter, How Young Farmers Became Established in Farming in Kittson County From 1960 Through 1969. Thesis, M.A., 1970. Library, University of Minnesota, St. Paul.

Purpose. To determine how young farmers became established in farming in Kittson County so that a better job might be done in counseling young men in how to become established in farming.

Method. A selected set of criteria were used in determining how young farmers became established in Kittson County and were presented in a survey form which was filled out by each young farmer during a personal interview conducted by the author. Data were also secured from census reports and other published and unpublished material. After the data on the survey forms were organized and tabulated, conclusions were drawn.

Findings. A trend toward larger farm size has increased the need for more operating capital and major financial help in starting an economical farming operation. Of the 80 young farmers who started in Kittson County in the past ten years, the average farm size was 737 acres. Of this operation, 37.6 per cent was purchased land, and 62.4 per cent was rented land. Most located their farms with help from relatives, and relatives provided most of the real estate credit needed. The local bank was the main source of production credit, and most of the young farmers depended on their fathers for machinery use. The average starting capital was $5,291, and the average yearly net worth gain was $4,345.

The young farmers in this study, based on their experience in dealing with farm problems, recommended more emphasis be placed on farm business accounting and credit utilization.

The writer suggests the following steps in helping young farmers to establish themselves in farming: (1) a strong program of vocational agriculture, giving the farm boy an opportunity to build up equity, to establish an interest and to develop a credit rating; (2) encourage the use of and explain the forming of a father-son partnership; (3) encourage and develop an interest in as much education as possible in the field of agriculture; (4) gain and encourage the confidence of credit agencies in helping finance the beginning farmer; (5) encourage the use of farm partnerships and the purchase of land by a contract for deed; (6) encourage the young farmers to enroll in young farmer classes, especially the farm management program.

78. WELTON, Richard Frederick, Relationship of Student Characteristics and Program Policies to Participation in FFA. Dissertation, Ph.D., 1971. Library, The Ohio State University, Columbus.

Purpose. To investigate FFA chapter programs and the characteristics of vocational agriculture students as they relate to student participation in FFA activities.

Method. A stratified random sample of 112 vocational agriculture departments from throughout the United States was drawn. Stratification categories were the four administrative regions of the National FFA. Two survey instruments were developed. The first instrument was designed to elicit information from vocational agriculture teachers concerning attributes of vocational agriculture departments and FFA chapters. The second instrument was developed to secure information from junior and senior vocational agriculture students in the departments. Student information obtained included personal, family, and social characteristics in addition to the extent to which they participated in various FFA activities during the 1969-1970 school year. Usable data were obtained from 109 vocational agriculture departments and from 2,773 junior and senior students.

Findings. Livestock and crop enterprises were the production activities reported by the highest percentage of vocational agriculture students. Off-farm occupational training students were engaged principally in placement in agricultural production. Slightly more than one-fourth of the vocational agriculture students did not report an occupational experience activity.

FFA members were influenced primarily by friends, FFA members, and FFA advisers in their decisions to join the organization. Over one-third of the responding FFA members were not participating in any type of chapter committee responsibility.

Vocational agriculture teachers identified the following as the three major problems facing FFA: improving the image of the FFA from that of a farm youth organization to one with appeal for all vocational agriculture students; active involvement of members in chapter activities; and financing the program. Non-FFA vocational agriculture students indicated that holding meetings when they could attend, changing the image of the FFA, more interested members, more appropriate activities to suit their interests, and activities held when they could participate as changes needed in the FFA before they would consider or again consider membership in the organization. FFA members indicated that more appropriate activities to interest all members, an opportunity for members to participate in activities, and more awards and recognition as the major improvements needed in the organization.

Two of the 14 dynamic chapter variables showed a statistically significant relationship to extent of participation in FFA: student involvement in the program of activities and the percentage of members holding leadership positions in the chapter. Mean participation scores increased as the level of opportunity for involvement in the program of activities became more extensive and as the percentage of members holding chapter leadership positions increased within the chapter.

A statistically significant relationship was shown between socioeconomic status and FFA participation and between participation in school activities and community organizations and FFA participation. Vocational agriculture students with a higher socioeconomic status tended to participate to a greater extent not only in FFA activities but also in school activities and community organizations than did students with a lower socioeconomic status. Students with lower grades in high school classes tended to participate as much or slightly more in FFA and in school activities and community organizations than did students with higher grades in high school.

The regression analysis indicated that the best predictor for participation in FFA was the number of years a student was enrolled in vocational agriculture, followed by extent of participation in school activities and community organizations and the number of occupational experience activities.

79. WILLIAMS, David L., Curriculum Materials for Teaching Students the Competencies Needed for Employment in Non-Farm Agricultural Businesses. Staff Study, 1971. University of Illinois, Urbana.

Purpose. To develop a secondary school curriculum guide and teaching materials for group instruction relating to business operations and procedures of non-farm agricultural business firms.

Method. A list of competencies deemed necessary for employees in agribusiness firms was compiled through a review of the literature. A jury of teachers and agribusinessmen evaluated the competencies in terms of knowledge and skills needed by non-farm agricultural business employees. Competencies appropriate for a secondary school curriculum were identified by a committee of secondary school and junior college teachers of agriculture.

Findings. Of the 368 competencies compiled, 241 were rated "essential," "highly desirable," or "desirable" and identified as appropriate content for a secondary school curriculum. The competencies were clustered around five modules: human relations in agribusiness; communications in agribusiness; agricultural salesmanship; agricultural sales promotion; and agribusiness operations. The modules were divided into 40 areas of instruction which may be incorporated into existing courses or new courses established in the agricultural occupations department. Since the latter seems to be the appropriate action for many schools, outlines were developed for two one-semester courses. The course outlines were designed based on the assumption that students enrolled in the courses may be concurrently placed in agribusiness firms for supervised occupational experience.

To assist the teacher in planning his instructional program, teaching source units were developed for each of the 40 areas of instruction. Each area of instruction includes a list of competencies to be developed, recommended references, supplementary references and suggested learning activities.

80. WILLIAMS, David L., Diffusion of Non-Farm Agricultural Occupations Curricula into Vocational Education in Agriculture--An Agribusiness Curriculum Workshop Report. Staff Study, 1971. University of Illinois, Urbana.

Purpose. The purpose of the project was to innovate programs in secondary schools that will prepare youths for careers in non-farm agricultural businesses.

Method. A statewise workshop was conducted on July 6-9, 1971, at the University of Illinois for Illinois teachers of agricultural occupations. Forty-two teachers and other vocational educators participated. Participants analyzed their instructional program and developed a plan of action for revising their program to include instructional activities related to non-farm agricultural occupations.

Findings. The workshop provided the participants with materials and information they may use to develop and conduct programs for students with interest in non-farm agricultural occupations. The plans made by participants to revise or improve their programs included: (1) organize an advisory council to help plan programs and courses; (2) survey needs and interest of students; (3) analyze local and state manpower needs in agriculture; (4) obtain and use new references and teaching aids; (5) develop courses to provide related instruction for students participating in non-farm supervised occupational experience programs; (6) implement supervised experience programs in non-farm agricultural business firms; and (7) use role playing, simulation and other teaching techniques as classroom learning activities.

81. WOODIN, Ralph J., Supply and Demand for Teachers of Vocational Agriculture in the United States in 1970. Staff Study, 1970. The Ohio State University, Columbus.

Purpose. This was the sixth in a series of annual studies of supply and demand for teachers of vocational agriculture in the United States. The purpose was to provide a guide for recruitment efforts in maintaining an equitable balance between supply and demand.

Method. State supervisors of vocational agriculture and chairmen of teacher education departments were asked to indicate, in August, 1970, the number of persons qualified for teaching and the number of positions filled. Data were assembled showing the number of teaching positions, the extent of the shortage of teachers, the types of teaching positions, and the number of positions by state. The occupations of those qualified in agricultural education were shown, as well as the supply from each state.

Findings. A record number of persons were qualified for teaching vocational agriculture in 1970. Seventeen hundred were qualified as compared to 1,324 in 1969. Supervisors reported 10,520 positions in teaching vocational agriculture with 1,029 required for replacement which represented a turnover of 9.8 per cent. A shortage of 171 teachers was indicated, with 36 states needing more teachers than were available. Fifty-two departments were unable to operate during the year because of teacher shortage. Looking ahead to 1975, supervisors predicted a modest increase in number of positions, totaling 12,347 as compared to 10,520 in 1970.

Of the 1,700 persons qualified for teaching, only 51 per cent became teachers of vocational agriculture. The percentage of those qualified choosing other occupations was as follows: armed forces, 13 per cent; other work, 11 per cent; graduate work, 9 per cent; teaching other subjects, 7 per cent; farm sales, service, or supply, 4 per cent; and farming, 5 per cent.

Most teaching positions were in comprehensive high schools where 94 per cent were employed. Five per cent were employed in area vocational schools and 1 per cent in vocational high schools. Sixty-three per cent of the teachers taught both high school and continuing education classes of adult and/or young farmers. A total of 782 persons were employed as teachers of vocational agriculture in community or junior colleges. Thirty-five per cent of the teachers worked in multiple teacher departments.

By type of program, 41 per cent taught full-time production agriculture programs, 39 per cent taught part-time agriculture and had one or more classes in specialized programs such as agricultural supplies, agricultural mechanics, etc. Only 6 per cent of all teachers taught full-time in specialized programs such as agricultural supplies, agricultural mechanics, and agricultural products.

82. YOUNG, Richard Ernest, The Effectiveness of a Correspondence Course for New 4-H Leaders. Dissertation, Ph.D., 1971. Library, The Ohio State University, Columbus.

Purpose. To evaluate whether a correspondence course for new 4-H leaders was effective in helping new leaders gain knowledge about 4-H and/or in encouraging the performance of desirable practices in the new leaders' 4-H clubs; to explore the relationships which may exist between 4-H leaders' knowledge of 4-H and the practices in their 4-H clubs and a number of demographic characteristics of the new leaders; and to describe the new 4-H leaders in Ohio.

Method. A random sample of ten of Ohio's 88 counties was selected. All new leaders recruited in these counties between July 1, 1969, and May 1, 1970, were included in the sample. Each of these 360 new leaders was randomly assigned to either an experimental group which received the correspondence course lessons or to a control group which did not. This was essential to the post-test-only control group research design.

Data were obtained through a mailed questionnaire from 219 of the new leaders. The first section of the questionnaire was a multiple choice 20-item cognitive test relating to the correspondence course lessons. The second section was a forced-choice instrument designed to measure the extent to which desirable practices were carried out in the respondents' clubs. Both instruments were designed by the researcher. The third questionnaire section asked for demographic data. A sub-sample of 50 of the new leaders was telephoned in an effort to further evaluate the correspondence course and to obtain data on non-respondents. Two dependent variables were obtained for each subject--his score on the knowledge test and his score on the practices instrument.

Findings. Evidence showed the correspondence course to be effective in relation to cognitive knowledge, that is, participants scored higher than non-participants. On the other hand, there was no difference between the experimental and control groups in the extent to which desirable club practices were performed.

New 4-H leaders can be expected to read correspondence course lessons and to evaluate them favorably. With no instructions otherwise, Extension faculty initiated only minimal interaction between themselves and correspondence course participants. Both lay leaders and Extension faculty appreciated the convenience and flexibility of the correspondence course method of teaching.

Female new 4-H leaders scored higher on the cognitive test than did males, but sex was not a significant interacting variable with the treatment of correspondence course participation. No significant difference between sexes was found regarding 4-H club practices. None of the demographic variables of the leaders was found to be associated significantly either with knowledge or practices scores. The leader characteristics included educational attainment, amount of contact with Extension, former 4-H membership, family income, age, number of other youth groups worked with, and place of residence. Also compared with county mean scores on the two dependent variables were each county's number of professional man hours devoted to 4-H and the size and stability of the county faculty situation; no signficant relationships were found. The new 4-H club leaders were resourceful in seeking help as they completed the knowledge test. Printed 4-H publications were their most fruitful resources.

83. ZIKMUND, Dale G., A Pilot Study to Evaluate the Effect of Mediated Occupational Information on the Aspirations, Understanding, and Attitudes of Eighth Grade Students. Thesis, Ed.D., 1971. Library, University of Nebraska, Lincoln.

Purpose. The purpose of this study was to compare the effectiveness of occupational information in the form of synchronized 35mm slides and audio tapes as contrasted to the traditional guidance program for eighth grade students.

Method. The study involved 279 eighth grade students enrolled in Robin Mickle Junior High School, Lincoln, Nebraska. The students were randomly assigned to classes prior to the experiment. The experimental treatment was assigned to one class for each of the three guidance counselors cooperating with the investigator. The remaining two classes for each of the guidance counselors were assigned to the control group. The experimental treatment group consisted of 90 students, and the control group was composed of 189 students. The study was a quasi-experimental non-equivalent control group design. The experiment was conducted during the second semester of the 1970-1971 school year.

The students in the experimental groups were shown 35mm slides and audio tapes on 100 different occupations. The students in the control groups received occupational information via various media in their regular group guidance class.

The null hypotheses regarding knowledge and aspiration level were tested using the analysis of variance with unweighted means to accomodate the unequal class sizes. The analysis of covariance was used to test the null hypothesis for attitude toward work. The pre-test scores on "Opinions About Work" were used as the covariate. Comparisons were made to determine the relationships between the experimental and control groups regarding student personal data. The opinions of students were assessed on a subjective evaluation instrument regarding the experimental program.

Findings. Based on the data presented in the study, the results showed no significant differences for two of the dependent variables. There were no significant differences between the experimental and control groups on the basis of the "Test on Knowledge of Occupations" and the "Occupational Aspiration Scale." Thus, the null hypotheses could not be rejected.

The dependent variable used to test the null hypothesis regarding student's attitude toward work was the post-test scores on "Opinions About Work." The F ratios for the effect of mediated instruction and the effect of the individual teacher did not exceed the established critical values. However, the F ratio for the effect of the individual teacher by treatment was significant at the .05 level. Thus, the data indicate that a combination of the effect of mediated instruction and the individual teacher had more influence on student's attitude toward work than either the effect of mediated instruction or the individual teacher effect alone.

At the conclusion of the study students in the experimental treatment group were afforded the opportunity to provide feedback on a subjective evaluation instrument. The results of the evaluation indicated that the students generally had a favorable attitude toward the experimental program although a majority of the students did indicate that they would prefer to learn about jobs by talking directly to someone who had a job in which they were interested or by going on a school sponsored field trip to visit a business.

The evidence from this study suggests that occupational information provided solely by slides and tapes was as effective as the occupational phase of the group guidance program using a wide variety of audio-visual materials, class discussion, and a required paper on a selected career.

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